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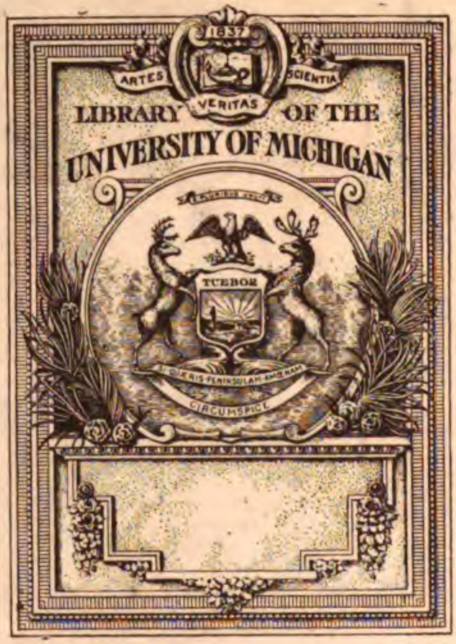

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VOL. XXIX JANUARY, 1917 NO. 1

PEDIATRICS

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PEDIATRICS

Vol. XXIX JANUARY, 1917 No. 1

EDITORIAL

EDITORIAL

Along with the high cost of publishing newspapers and periodicals is to come an increase in the second class postal rates, if the chairman of the Postal Committee of Congress is to have his way. It is claimed that the second class postal rate causes a great loss to the government, and that the plea that the government should stand the loss because dissemination of printed matter is a means of educating the masses should not prevail. At all events, we look for increased postal rates on all printed matter, but it is not at all unlikely that letter postage will be reduced. We are not in a very good condition to stand any increase in the postal rates, but, in company with all other periodicals, will be obliged to take the medicine whether it is palatable or not.

THE LONGEVITY OF THE FIRST BORN

In some countries the male first born inherits certain advantages of a social and pecuniary nature. In many of the European countries the law of primogeniture exists, by which the first born, that is if he survives to adult age and outlives his father, comes into most of the property and family honors. But this, after all, doubtful advantage, is one only conferred by human laws and custom and it is with the laws of nature that this editorial will deal.

It seems to be a view more or less commonly held that, so far as inherited physical and perhaps mental qualities are con-

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cerned, first born children are, in the larger proportion of cases, inferior to those born later. This view appears to have taken root, and possibly a considerable array of facts can be brought forward in its support. However strong the argument for this aspect of the situation may be, it at least does not hold good with respect to longevity. Recently the results of an investigation in this direction have been reported by the editor of the Journal of Heredity, for September last, by which it was demonstrated with a sufficient amount of clearness that the first born live longer than their brothers and sisters. The data upon which this contention is based are taken from the instances of longevity which the Genealogical Record office of Washington has been collecting for a great number of years. From a consideration of these data the editor of the journal referred to, concludes that long lived people tend to come from large families; secondly that among the aged, the first born are relatively more numerous than those of any other birth rank.

Into the numerous instances brought forward in evidence of the preponderance of long lived first born, there is no space to enter and the authenticity and weight of the data collected and sifted may be accepted as conclusive.

Yet the question presents itself insistently, how can such results fit in with the conclusions reached by Karl Pearson; that still-births are most frequent among the first born, that infant mortality is higher among the first born, and that the health of the first born child during its early years is below par.

This apparent contradiction in the conclusions come to by these different investigators may be explained by the working of the natural law of the survival of the fittest. From a variety of physiological reasons, the first born child is inherently weaker than the average of a general population and therefore it is only the hardiest and those who possess the greatest amount of vitality who survive.

Of course, there are other reasons which have a bearing upon this interesting biological fact, or, perhaps, it might be more fittingly termed hypothesis, and the whole matter as to the first born being apparently proportionately longer lived than other children, may be succintly summed up as follows: Because they are (1) More variable in respect to longevity, and (2) Subjected to a more stringent selection at birth.

CLOTHES AND OTHER THINGS

There has been so much clever advertising concerning hygienic underwear, that the public has been led imperceptibly to believe that there is a specific virtue against cold in certain weaves and meshes, and the tendency is toward the substitution of cottons and linens in place of woolen fabrics in winter. At least this appears to be the idea that patients have concerning their doctor's advice.

In the widespread reaction against woolen underwear, flannel petticoats and warm stockings the "new" mother seems to think that her physician is prescribing a modern discovery for her child, instead of realizing that he is only trying to mitigate a very bad hygienic state of affairs in the overheated atmosphere in which his patient lives. Even though it be winter, it is impossible for any one to be comfortable with wool next to the skin when an apartment or house is heated to a temperature between seventy and eighty. Physicians who advise light weight clothing that allows the heat of the body to pass off readily while in the house, and an exceedingly warm set of garments for out doors, are simply adapting the clothing to conditions which they cannot overcome, and are infrequently laying up a stock of snuffles and coughs for the children, in the spring and fall. Then, after furnace and steam heat is dispensed with, the general temperature of the house is much nearer that of the outdoor air, but it is likely to be at least twenty degrees cooler than what the child has been accustomed to in the winter weather.

The hardening process, which some advise, is generally but an artificially applied prescription of common sense to the children of wealthy homes where there is nothing naturally hardening in the hot-house atmosphere. The majority of children, however, are brought up in town and country homes where the indoor heat is irregular, and often insufficient. They run in and out of doors freely, without the careful attention of wrapping up each portion of the body evenly. It is, therefore, we believe, advisable that the body should be evenly clothed. Thus the child, whose own heat is not used and preserved by suitable underclothing is at a disadvantage in the first days of outdoor life, especially in the raw spring days.

It is impossible to advocate any one method of clothing for all children. The over steam-heated class, whose physicians prescribe well-advertised meshes of various fibres are but a small percentage of children. The main underlying principle is to teach a child to create its own heat, by exercise, rather than to depend upon artificial heat, and then to conserve that heat as the animals do by warm clothing. For the change of temperature during the passage from indoors to outdoors is not as perceptible when the child is surrounded by a layer of its own bodily heat that is not too easily radiated through the clothing.

There is a vast difference in children, some are so full-blooded that the slightest exercise causes them to perspire, and to readily catch cold if the changes are extreme; these should be slightly clothed and especial care given to draughts. Others become blue and livid with cold, through poor circulation; these should be clothed in wool, or half wool and half cotton underclothing from wrists to ankles and wear merino stockings and warm overshoes in cold weather, so that they may waste no particle of their natural heat in warming the outer air.

The mother who swathes her year-old infant in flannel bands and skirts and jackets when the temperature is 95 degrees and wonders why it has prickly heat, is unwise; but no more so than the mother who casts off the woolen band entirely all summer, regardless of the cool mornings and sudden breezes and wonders why the child has diarrhea. As the woman told Tom de Willoughby, "The mejumer you are with children, the better." So we advise very strongly from principle and experience that the majority of children, summer and winter, should have on hand linen mesh underclothing, to be used or not with discretion, according to the temperature of their habitation, and that in cold weather they should help to equalize the difference between indoors and out, by the addition of warm outdoor garments, of which the woolen sweater is perhaps the most useful.

PEDIATRICS

ORIGINAL ARTICLES

THYMUS DISEASE IN CHILDREN

With Report of a Case of Thymus-Hypertrophy

BY HERMAN B. SHEFFIELD*
New York

We have yet a great deal to learn about the status of the thymus gland in the human economy. Though fully dispensable in adult life, it is essential to the growth and development of the child. The function of the thymus is more or less dependent upon and in part regulated by that of the thyroid, and vice versa. Thus, there is less need of thymus when the thyroid is removed. Moreover in cases of hypertrophy of the thymus, where the elaboration of its secretion is excessive, removal of the thyroid is usually followed by sudden death, which shows plainly that in the absence of the regulating power of the thyroid an excess of thymus secretion is destructive to the human economy. Experiments on dogs by H. Close† have shown that about two weeks after total removal of the thymus gland a "stadium adipositas" of from two to three months' duration develops, followed by loss in weight, general bodily weakness, frailty of the bones, arrest of growth in spite of ravenous appetite, and frequently spontaneous fractures. This cachectic state, or cachexia thymopriva is accompanied by "idiotia thymopriva" with a terminal "coma thymicum." Postmortem examination discloses signs of rachitis, osteomalacia and osteoporosis, the lime salts content being reduced to about half its normal percentage, although the ratio of the lime salts was unaltered. According to the same author the deficiency in undissolved lime salts is dependent upon an increased acid action owing to the failure of the thymus to inhibit the formation of acids in the organism or to neutralize or mask an excess thereof. This "hypothetic" nucleinic acid intoxication, he believes, produces in growing bone defective construction, rachitis with abnormal softness and flexibility, while in fully formed bone increased destruction, osteomalacia, and osteoporosis with abnormal fragility.

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*The Archives of Diagnosis.

†Brooks and Langerhaus Text-Book of Pathology.

With these laboratory observations in view we are enabled to obtain a clearer conception of the manifestations accruing from the effects of thymus disease or congenital abnormality, be it hypoplasia or hyperplasia of the thymus.

Thymus disease is variously attributed to lung and heart disease, pertussis, rubeola, diphtheria, scarlatina, asphyxia neonatorum, tuberculous and syphilitic processes, and malignant growths, but excepting the last three etiologic factors, the manifestations produced by the other causes are undoubtedly only transient in character. The same is true of atrophy of the thymus associated with protracted malnutrition. Indeed, it has been shown that the atrophied gland in emaciation is often regenerated on restoration of the body weight. I firmly believe, therefore, that genuine hypo- or hyper-plasia of the thymus is due either to a primary congenital anomaly of the thymus, or develops later secondarily to alterations in the thyroid or other lymphatic gland.

Whatever the cause, the clinical syndrones arising from the effects of hypo- or hyper-plasia of the thymus are not as difficult of recognition as was formerly believed to be. As already stated the functions of the thymus and thyroid glands are closely correlated, so that hypoplasia of the thymus by inducing also a reciprocal diminution in the thyroid secretion produces not only an arrest of growth and frailty of the bones and general debility, but also lowered the mental capacity as exemplified in infantilism, more especially the Brissaud and Lorrains types.

The clinical signs of hyperplasia differ with the degree of the thymic enlargement and the functional activity of the thymus. Not every case of thymus hypertrophy is necessarily associated with increased function of the gland. The latter may, for example, owe its enlargement to a growth destroying the medullary substance of the gland, and thus be incapitated rather than hyperactivated. Even where the thymus secretion is excessive the symptoms engendered vary greatly. By corresponding increased activity of the thyroid the clinical picture may be limited to that observed in hyperthyroidism, i. e., tachycardia, insomnia, change in disposition, abnormal perspiration, and often also a mild degree of exophthalmos and possibly struma.

In another group of cases hyperplasia of the thymus careful examination of the child fails to reveal any definite manifestations of a pathologic entity, except possibly a few signs of rachitis or "scrofulosis," and this notwithstanding, death may occur without any apparent reason as the result of slight causes (e. g., serum injection, narcosis, slight operations, etc.) which produce physical excitement or shock and are usually of no consequence in healthy children. This condition is generally spoken of as "status lymphaticus." Unfortunately, we have no characteristic symptoms by means of which this condition may be diagnosed during life and nothing characteristic is found at necropsy.

Finally, in another group of cases hyperplasia of the thymus percussion reveals marked dullness over the upper portion of the sternum particularly to the left as low as the second rib and often also to the back between the scapulae. It is in addition distinguished by the presence of swollen lymph-glands in the lateral lower region of the neck, which may sometimes be seen to continue deeply down between the clavicle and side of the sternum. If the hypertrophy is of long standing we readily detect secondary manifestations, such as dilation of the veins of the neck, dislocation of the heart, accentuation of auscultatory signs of the heart and lungs and arching and distension of the thorax. The thymus gland may occasionally be felt as an arched elastic swelling in the middle line above the incisura sterni, which may ascend upward to the thyroid gland. Furthermore, the thymus enlargement is distinctly discernible by means of the Roentgen rays. The clinical signs differ, of course, with the degree of mechanical encroachment upon the adjacent structures (thyroid, bloodvessels and nerves, trachea and bronchi) and secondary involvement of the heart and lungs. As a rule, the symptomatology is essentially that of cardiac asthma, so-called, and is generally spoken of as asthma thymicum. The child is suffering from a persistent cough and other signs of bronchitis, marked dyspnea, cyanosis or marked pallor of the face and, off and on, with acute turgescence of the enlarged thymus, it is attacked by paroxysms of asphyxia which not rarely terminate fatally. Pott*, who has frequently observed the course of these fatal attacks of asphyxia, describes them as follows: The children bend their heads suddenly backward (which position, by the way, by producing a marked lordosis of the cervical region of the spine and thus increasing the pressure of the thymus against the trachea greatly aggravates the laryngospasm), and make soundless, gasping inspiratory movements. The eyes are turned, the face is blue or black, the cyanotic tongue is impacted between the jaws, the veins of the neck are distended, the hands are clinched, the forearms are pronated and abducted, the legs are stiff and extended, the large toes are abducted and flexed, and the spine is arched strongly backward. The pulse, heart's action, and heart-sounds cease immediately with the onset of the paroxysm, and after a few futile respiratory efforts the face turns ashy in color and in a minute or two the child is a corpse. Pott believes to have felt the vocal cords snugly together in the median line. He nevertheless maintains that death is caused by heart-failure and not by closure of the glottis, for on two occasions he performed immediate tracheotomy by one incision without any relief. This view is not shared by all observers, and Biedert, for example, is of the opinion that closure of the glottis, through suffocation stasis in the heart and thymus, might be responsible for the onset of such an attack and its grave result. Of course, not all attacks terminate fatally. Some time ago I had the opportunity, for several weeks, to watch a five-months-old infant afflicted with an apparently congenital hyperplasia of the thymus. The family history was negative as regards syphilis and tuberculosis. The father, a French artist, was in perfect health, the mother was subject to arthritis with slight valvular heart disease. The older child, who is now ten years old, was for four months suffering from spasmodic pyloric stenosis. The infant under consideration weighed about five pounds at birth and failed to gain though breast-fed for the first three months of its life. It was noticed immediately after birth that he was very pale and cyanotic, had some difficulty in breathing, coughed a little and had a husky cry. Gradually these symptoms became worse and attacks of bronchitis with marked dyspnea set in, during which the baby would repeatedly be seized by convulsions with loss of consciousness. The family physician diagnosed it as asthma, while a very learned pediatrist decided that they were dealing with spasmus glottidis supervening faulty feeding. The child's condition got gradually worse, notwithstanding the correction of diet and administration of antispasmodics, etc. When I saw it the clinical picture resembled pulmonary edema, but there were no signs of primary heart or kidney disease and the history of the case and the distinct hoarseness certainly pointed to some form of immediate obstruction in the upper respiratory tract—most probably primary, nay congenital, since it was manifested at birth. There was no difficulty to exclude asthma, as this disease is invariably associated with remissions and would at least temporarily yield to anti-asthmatic remedies which in this case were given a fair trial. Neither did the diagnosis of spasmus glottidis appeal to me. Here the infant is free from dyspnea, etc., between each paroxysm, and certainly does not get worse on a suitable diet. Going over the case more carefully I detected undue dulness over the upper portion of the sternum, marked dilatation of the veins in the neck, fulness of the neck over the interclavicular notch—all signs and symptoms which were quite suggestive of thymus hypertrophy. I therefore suggested a Roentgen-ray examination, which promptly confirmed my diagnosis. The infant was in too delicate a condition to undergo thymectomy, and his parents—rightly—hesitated to consent to this procedure. The infant was soon relieved of its agony during a paroxysm of asphyxia.

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*Graetzer and Sheffield Practical Pediatrics, p. 296.

ECZEMA IN CHILDREN*

BY GEORGE W. CRARY, M.D.
New York

Eczema must still be described as comprising forms of dermatitis which as yet have not been assigned to any other distinctly specific entity; only when a dermatitis cannot be classified as belonging to any other group of diseases of the skin may a diagnosis of eczema be made. Only when an existing erythema is determined not to be a simple intoxication erythema, nor one of the acute infectious diseases, not an urticaria nor due to mechanical, thermic, or chemical irritation, nor to belong to any of the other forms of erythema, may a diagnosis of an erythematous eczema be made. Similarly, a vesicular eruption must be determined not to be a zoster or other form of herpes, including dermatitis herpetiformis, the early stage of an impetigo contagiosa, dysidrosis, dermatititis calorica, or any of the other forms of dermatis accompanied by the formation of vesicles or bullae, before a diagnosis of vesicular eczema may be made, and this same method of diagnosis by exclusion must be pursued throughout in the other forms under which eczema may present itself.

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*Read at a meeting of the Medical Association of the Greater City of New York, April 17, 1916.—New York Med. Jour.

With such a conception of eczema before us, it follows that the etiology of the disease will often be obscure and nearly always varied, and mixed. Such a mixture of causes will most often be found to be internal and external, and the relative potency of the two will vary much in different cases, and in a given case the one may so predominate as to cause us to diagnose the condition as an eczema of external origin, or as an eczema of internal origin, and from the point of clinical therapeutics this is perhaps the important point to establish. In children two years of age, or less, an eczema of extensive distribution, of purely external origin, is rare, though in perhaps nearly all, if not indeed all, the external cause is present as the determining cause; the predisposition to the outbreak being established by causes of internal origin. The external cause is quite certainly of a bacterial nature, but the specificity of the particular microorganism has not been established, though affirmative statements have been made by a few investigators. If there is an absence of proof by the bacteriologist of the responsibility of any one germ, it is not an unwarranted assumption upon the part of the clinician to assume the activity of more than one form of microorganism. In young children, the site of the internal causation for an eczema is the gastrointestinal tract, and is of the nature of an autointoxication due to feeding which in that particular subject, at that particular time, is faulty in that, for the time, the subject is unable perfectly to digest or to assimilate the food taken, or because there has been developed in the child a hypersusceptibility to certain foodstuffs. Such liability to food anaphylaxis as a cause of outbreaks upon the skin has very recently received much attention. Strichler and Goldberg[1] and McBride and Schorer[2] have given us valuable accounts of their experiments upon the skin reactions to food anaphylaxis, and White[3] reports his study of the effect of this form of anaphylaxis upon the occurrence of eczema in infants. The power of certain foods specifically to cause the outbreak of certain forms of dermatoses or even of certain varieties of eczema, must be considered "not proven." But before the phenomena grouped under anaphylaxis were named or understood, and long before intoxication by foods was included under the heading, it was known that certain subjects, especially infants, would at times manifest a susceptibility to the ingestion of certain foods, and these often of the simplest. Babies have been thrown into convulsions, with even a fatal outcome, by even small amounts of egg albumin, taken by stomach or injected under the skin, and milk has been known to cause similar disturbance. Nearly all authorities, however, admit that there are eczemas in infants which are quite independent of any form of food ingestion, and an intestinal autointoxication may result, as McBride and Schorer have pointed out, from an indifferent food which has undergone change, either within or without the body of the host, through the action of parasites. We have cases also arising from so called reflex causes, and one of the most frequent is that associated with an adherent prepuce, especially in female infants. Undoubtedly dentition may also act as an exciting or predisposing cause of a reflex eczema.

Treatment.—Upon approaching the treatment and cure of eczema, we are met, first, with a prevailing belief among the laity, and entertained indeed by many of the profession, that the cure, or at least the rapid cure, of an eczema is fraught with danger to the life of the child. In his report of his fatal cases of eczema, Purcell S. Hichens[4] lends his support to this belief by concluding to give to mothers of eczematous infants the warning that their children may be better off with eczema than without, and that its cure is not an unmixed blessing. In five of these six cases, details of the disease and its treatment are given, and it is of some interest to note that in four, lead, in the form of Goulard's extract or of ointment or emplastrum, was used in the external treatment. In the discussion of the report, Doctor Guthrie suggested that death might sometimes be due to the poisonous nature of external applications, and the extensive application of remedies to the delicate skin of a child which might, if absorbed, prove harmful to the general health or even to the life of the infant, should be most carefully guarded against. An examination of this report would further suggest that it was not the rapid cure of the eczema that had proved fatal, for in none of them was a quick cure obtained. In two cases improvement was noted in two weeks and in thirteen days, respectively, and in one other case a cure was established in four weeks. It would seem more likely that these deaths took place as a result of the intestinal autointoxication, of which the skin manifestation was only one symptom, and not perhaps a very important one, as in two of the cases the eczema was limited to the head and face, in one other the nates were involved, and in still another one arm was the site of the eczematous process. In one of Guthrie's cases which came to autopsy, he found marked congestion of the whole gastrointestinal tract, with raised, swollen, and red Peyer's patches. Whenever this suggestion of the danger of a quick cure has been made to me by an anxious mother, I have been more accustomed to reassure them by remarking upon the unlikelihood of a quick cure than to warn them of the dangers of such a cure. The cause of eczema in infants, the cause of the illness of which the eczema is a symptom in infants, being so intimately connected with faulty feeding, it seems to be the duty of the pediatrist to assume direct control of the case, and for the dermatologist to assume the position of consultant. Certain general guides may, however, be indicated. Freeman[5] advises that the food be cut down to the caloric requirement, that the ration be balanced, and that digestion be aided. He advocates the introduction of malt soup into the dietary to maintain the proper caloric balance, and he prohibits stewed fruits and cream. Southworth[6] also finds malt soups to be a valuable aid in the nutrition of infants who do not properly digest and assimilate other forms of modified or unmodified milk feeding. Ochs[7] likewise believes in cutting down the amount of food and the number of feedings. Varnot[8] in nursing infants recommends a change of milk, believing this to be less dangerous than the external treatment. I am accustomed to forbid eggs and sugars in the diet of the older babies, a position founded largely upon clinical experience. In the choice of external dressings, protection is first of all to be sought, but the dressing itself should be capable of absorbing moisture from the skin, and should not be impervious to it. For this reason pastes rather than ointments should be the base, and such a paste is better than a lotion when a large surface is to be covered, as under such circumstances the application of lotions as wet dressings is sure to be depressing to the vitality of the little patient. Again I have so often found that the application of any fat to the skin of an eczematous infant proves irritating, that I now invariably use an Iceland moss jelly, either to dilute the petrolatum base, or alone as the base for whatever medicament I wish to apply. I believe in the introduction of a mild antiseptic into the external treatment, and I generally employ a resorcin. as euresol, the monoacetate according to the manufacturers of the preparation I use. This I introduce into the paste in the proportion of one, two, or even three per cent. With this may be combined small percentages of ichthyol, up to five or ten per cent. Where a purely protective dressing is required, the preliminary application of the Iceland moss jelly, followed by thorough dusting on of an indifferent powder, composed usually of zinc oxide and powdered talcum, and allowed to dry, has oftenest proved of value. Where such an application is made, the flexures, as in the cubital triangles and popliteal regions, must be softened when dry by the application of petrolatum, to prevent cracking or a milder irritation of the skin upon movements of the extremities.

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INFANTILE PARALYSIS TREATED WITH IMMUNE SERUM*

BY ORLANDO H. PETTY, M.D.
Philadelphia

Instructor in Medicine, Jefferson Medical College; Pathologist, Germantown and St. Timothy's Hospitals

In estimating the therapeutic value of immune serum in poliomyelitis, certain facts must be considered. There is in all cases of disease an indeterminate and unmeasurable force, Vis medicatrix naturae. This force must be acknowledged as an aid in all therapeutic measures, and it must be recognized in connection with the administration of immune serum in poliomyelitis, whether the serum is administered intravenously, intramuscularly, or by the subdural route. It is only through this force, in many of the practically untreated cases of poliomyelitis, that the maintenance of life and the restoration of power can be explained.

*New York Med. Jour.

When the serum is administered by the subdural route, we must not lose sight of the fact that the simple withdrawal of spinal fluid in meningeal inflammation is followed by an amelioration of some of the most prominent symptoms; the temperature drops temporarily, the respiratory rate is lowered, irritability or sopor is lessened, and not infrequently, as in Case III of this series, lost function is to a great degree restored.

From a study of eleven cases of poliomyelitis treated in private homes with immune human serum administered by the subdural route since August, 1916, and in which no unfavorable symptoms were noted, I would draw the following conclusions:

Immune serum, to be of curative or prophylactic value, must be administered early, preferably in the preparalytic stage, preferably by the subdural route.

Subdural administration should always be by gravity, less serum in amount being introduced than the total amount of fluid withdrawn, except in rare instances where the pressure is so low that not more than one or two c. c. will flow through the needle. It must be remembered that the withdrawal of ten to twenty c. c. of spinal fluid will reduce the pressure in children from ten to fifteen mm. Hg. The dose in children probably should not exceed ten c. c.

Many adults have a cellular immunity, and it is probable that the immune qualities of adults, who have had an attack of poliomyelitis during infancy, is of this type. A serum, not inactivitated, from those who had an attack not over ten years previously, would be the one of choice.

Case I. M. M., aged three years, serum administration twenty-six hours after parents noticed child to be sick. There was at this time slight ocular and evident respiratory disturbance. Within a few hours there was loss of power in right deltoid, but the respiratory disturbance cleared up only to reappear about twenty hours after injection of serum. Second dose of serum, six c. c., was then given, followed within a few hours by a drop of two degrees in temperature, regular respirations, and finally recovery with slight ocular and right deltoid paralysis.

Case II. D. M., age three and a half years. Serum administered within forty-eight hours of beginning of attack. Patient had marked weakness of left leg, which disappeared six hours after administering serum. The temperature fell from 103 degrees to 99.2 degrees F., and child became bright and cheerful. Fourteen hours after first dose of serum, child had a marked irregularity of respiration, and died just seventeen hours after first dose.

Case III. M. S., aged two years, spinal puncture fourth day of disease. Both arms and legs paralyzed; breathing irregular; within twenty minutes of the withdrawal of thirty-five c. c. of spinal fluid, the child could use its arms and move the legs. Paralysis returned within a few hours, so five c. c. of immune serum were administered, and were followed by so much improvement that the patient was considered out of danger for two and a half days, when it suddenly manifested respiratory failure and died.

Case IV. L. M., aged five years, sick eighteen hours when five c. c. of serum were administered in the pre-paralytic stage; this was followed by a reduction of temperature and the lessening of irritability and pain, Ten hours later, there was difficulty in deglutition, ocular and facial paralysis, followed later by respiratory disturbance and left leg involvement. This increased involvement indicated the introduction of more serum, which was followed within four hours by a disappearance of all paralysis, except in eyes and left leg. Patient recovered with no evident paralysis, except after overexertion, when the left leg dragged and one eye turned inward.

Case V. N. O., aged nine years, sick thirty hours. Both legs involved and marked meningeal symptoms, when five c. c. of serum were administered. Six hours after serum was given the temperature had dropped from 103.6 degrees to 100 degrees F., the child could move its legs and was much brighter. A second dose of serum was given, followed by no marked improvement. Eight weeks later, child could walk unaided, but there was a noticeable loss of power.

Case VI. O. P., aged four months, sick six days, temperature 104 degrees F., paralysis of arms and legs and left rectus, and respiratory disturbance. Five hours after the administration of serum, temperature was 99.4 degrees F., and the patient could use arms. The second dose within twenty-four hours showed no improvement. The child recovered with both legs paralyzed.

Case VII. P. R., aged three months, sick thirty-eight hours, respiratory disturbance, both legs and abdominal muscles involved. Infant was cyanotic, but parents insisted upon the use of serum, the child dying just six hours afterward.

Case VIII. R. S., aged three and a half years; ten c. c. of serum administered thirty-six hours after initial symptoms, the respiratory centre showing the only involvement, followed by slight improvement. The second dose of fifteen c. c. did not seem to change conditions, there being a gradual increase of symptoms, the child dying in the fourth day of the disease.

Case IX. S. T., aged seventeen years. Thirty hours after the beginning of the attack there was ocular and facial paralysis, when six c. c. of serum were administered. Within five hours paralysis had disappeared, temperature lowered, all of these symptoms returning in twenty hours. Twelve c. c. of serum were administered, the temperature soon reached normal and the paralysis disappearing permanently.

Case X. T. V., aged five years, sick thirty-four hours with paralysis of both legs, and unconscious, when five c. c. of serum were administered, followed by slight improvement. Second dose, within twenty-four hours, when temperature of 122.2 degrees F. fell to 99 degrees F., child making slow, but almost complete recovery.

Case XI. W. A., aged five years, serum administered in the preparalytic stage, sixteen hours after beginning of disease. Temperature and respiration improved for a few hours only, when both legs were attacked and there was some respiratory involvement. More serum was given, and the respiratory trouble disappeared; the temperature fell 2.5 degrees F., there being a slow, yet steady increase of power in the legs.

In all the foregoing cases, serum was administered subdurally, and the spinal fluid carefully studied.

6215 Ridge Avenue.

SOCIETY TRANSACTIONS

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Stated Meeting, Held December 26, 1916

Report of the Majority Committee on Birth Control.—This report was read by the secretary of the committee, Dr. George W. Kosmak, who stated that in accordance with a resolution passed at the October meeting of the County Medical Society, the committee appointed by the president to present a memorial on the medical aspects of birth control had held several meetings as the result of which it had developed that there was a diversity of opinion among its members regarding the action to be taken in this matter. The vote taken on December 8, eight members of the committee being present, showed that five members were opposed and two in favor of a change in the State Penal Code, the chairman not voting. As a member of the majority the undersigned desired to subscribe to the following statement as an expression of the attitude taken. It was the understanding that the committee was primarily appointed to discuss the propriety of amending Section 1142 of the Penal Law, State of New York, in such a manner as to permit giving advice by regularly qualified medical practitioners to married people on how to avoid conception. The undersigned members of the committee firmly believed that any such action on the part of the organized medical profession would be most inappropriate and uncalled for at any time, and particularly so at the present moment when a senseless and sensational propaganda relative to this important matter was being circulated by very doubtful methods. Although the committee had been instructed to present a memorial on the medical aspects of birth control to the members of the society, they felt the subject to be too important and far reaching to be decided in one way or another through the medium of such a brief and necessarily superficial study. The social, moral, economic, and finally medical questions involved were of such gravity that the organized medical profession as represented in the County Society was not qualified to pass upon them at the present time with the knowledge at hand. They claimed that no satisfactory evidence had been adduced by the propagandists who favored regulating the control of births to show any necessity for urging recognition by law to metheds of contraception. A movement of this kind would undoubtedly have a most unfortunate effect on the minds of the public in general, and they did not believe that small families, especially among the poorer classes, would bring about, as claimed, a solution of the economic and social problems of the day. The creation of a family could not be governed by legal procedures, no matter how well intended. This was a question which must be left entirely to the judgment and decision of the two individuals who had made a marriage contract. The only restriction which could possibly be considered by the State would be that referring to a procreative union between individuals afflicted with mental or physical disease, and that was apparently not the question in this case. The statistics brought forward in favor of legal regulation of the matter of birth control which were derived from foreign sources has no application in this country, nor were they of a conclusive argument. There was by no means an agreement as to satisfactory and safe methods of preventing conception aside from continence and the wearing by the male of certain appliances. Many of the foreign procedures which had been copied and promulgated by those who had attempted the movement in this country could only be characterized as absurd, frequently dangerous, filthy, and usually unsatisfactory. If indiscriminately employed, as they undoubtedly would be if any change was made in the law, they would result in untold harm to the community. Moreover, at the present time we were being treated to the unique spectacle on the one hand of an agitation by a certain group of reformers to limit the number of children, and on the other the reports of governmental commissions appointed to consider, and if possible to recommend, a method of relief from a declining birth rate. The most conspicuous example of the latter was that of France, the accepted traditional home of the "contraceptionists," whose methods had been largely copied elsewhere. Amending the penal code in the manner intended would also, among other things, unquestionably afford an opportunity for the more wide-spread practice of professional abortionists, who had already for many years posed as experts in methods of preventing conception and would consider an opportunity for further practice and development of their specialty that would not long be neglected. Notwithstanding the argument that the prevention of conception and unlawful abortion should not be considered in the same class, they were practically so as regards the professional abortionist. With the law as it stood prosecution of these pests was possible, otherwise it would be surrounded with many difficulties. The medical profession should give its undivided aid and support to every legal measure that would tend to lessen the practice of these individuals and also the means by which they could be prosecuted and brought to justice. It seemed hardly reasonable that the organized medical profession should by such measures as those contemplated ally itself with illegal practitioners and with the sensation mongers among the laity and clergy who had taken this matter up in the role of social, economic reformers. The prevention of conception for good and sufficient reasons could now be carried out even with the law as it stood, for the knowledge of such service and advice by physicians honestly given would certainly never come before a judge or jury for trial, and if by any chance it did a conviction would not be obtained. It would appear reasonable to assume that certain medical questions involving the relations between physician and patient, in which common sense dictated the course to be taken, might, with advantage, be kept without the pale of fixed statute-book laws. The topic under discussion was not a question of State medicine and the medical profession ought not to take the lead in a movement of this kind with which its alliance would be of very doubtful value either to the community at large or to its own members. Education in the broad sense could and would contribute more to the solution of this problem, as of others, than ill-advised legislative enactments and sensational propagandist movements. It was in the development of such educational measures that the medical profession would find its greatest field of usefulness. No attempt should be made to arrive at the end sought by doubtful, although rapid, means that might in the course of time redound to the discredit of their supporters, be these societies or individuals. For these reasons they, as the majority of the committee, believed that the County Medical Society should decline to take part in the repeal of a statute which served a useful purpose and constituted an important protective measure for the community at large.

This report was signed by Drs. C. E. Nammack, H. C. Taylor, W. H. Bishop, M. C. O'Brien, Frank Van Fleet and G. W. Kosmak.

Minority Report.—Dr. A. L. Goldwater presented this report. He declared that when Bernard Shaw said that the voluntary sterilization of marriage was the greatest discovery of the nineteenth century, he did not at all exaggerate its importance. The limitation in the number of offspring among the middle, and especially among the poorer classes, would in less than a single generation solve most of the present social and economic problems that were presented for solution. It would help to end wars, do away with child labor, and incidentally solve the eight-hour day problem. It would establish the full equality of the sexes, and reduce to a minimum poverty, crime, vice, divorce, disease, drunkenness, and most of the other horrors that went hand in hand with present-day civilization. But while from the social and sociological, economic, eugenic, humanitarian, and moral standpoints its advantages were so obvious as merely to need enumeration to be recognized, from a hygienic and medical standpoint it was possible that the subject was open for discussion. They would, therefore, in accordance with the resolutions passed at the October meeting, attempt to take up the purely medical aspect of birth control and try to show that its advantages were overwhelming and its disadvantages almost nil. The argument fell under these heads: First—Was the adoption of birth control methods physically injurious to the mother, father, or child? Second—Was the unrestricted continuation of frequently occurring births beneficial or harmful? Third—Were there any pathological conditions under which it became the duty of the physician to advise contraconception? With reference to the first question no one denied that coitus interruptus and occasionally coitus condomatus were harmful to both parties. But to say that other methods or appliances that differed in no essential respect from the routine treatment or prescription advised for gynecological affections should become dangerous or harmful when used for preventive purposes was ridiculous. More than twenty prominent gynecologists and obstetricians whom the writer had consulted in order to get data were unanimous in the statement that they not only did no harm in the practice but were of distinct physical benefit. The use of these measures was followed by marked improvement in local pelvic inflammation, and another direct result was the minimizing of the acquiring of venereal diseases post-maritally. With reference to the second question, the harmful effects of repeated child-bearing at short intervals, there was practically unanimous opinion. If natural fecundity were permitted to have full sway, controlled only by the doubtfully inhibition of lactation, the vast majority of present-day mothers would be in a truly pitiable condition at the close of their child-bearing period, not to consider the incidental effects on the children and the family as a whole. With reference to the third question, whether there were any pathological conditions under which it became the duty of the physician to advise contraception, the speaker said that pregnancy in a normal woman under normal surroundings was a normal function no one would deny. But people living in our present intensive civilization were so frequently and so far removed from the normal as to render pregnancy, all too often, a complication to a pathological condition rather than a normal physiological one. No one would deny the prevalence of tuberculosis with its annual toll of one-seventh of all the deaths in the country. The point had not yet been reached where we forbade tuberculous patients to marry. Were birth control established as a standard measure, it would never be necessary to impose this cruelty upon a very large percentage of the population. Bonney stated that nearly all authorities agreed that the combined effect of pregnancy, the puerperium and lactation, constituted a tremendous tax on the physical energies of the consumptive and directly lowered the powers of resistance. In view of the clinical observations as to the frequent increased activity of the tuberculous process after childbirth with progressive subsequent decline, pregnancy had come to be generally regarded as a factor of grave prognostic import among such patients. Dr. Goldwater then cited authorities upon the disorders of pregnancy and of the diseases complicating it, or to which it offered a complication. Prevention of conception, he said, was not abortion; birth control did not spell abortion. In fact it was the very antithesis of it, the one potent preventor of abortion, and it was because of the danger and the horror of abortion, that they took the stand they did upon this subject. It was for this very reason that the proposed change in the laws was opposed by the professional abortionist who saw in the intelligent application of birth control methods the loss of their very lucrative practice. In closing, Dr. Goldwater said that many important facts could be added to the foregoing, but they felt that an incontrovertible case had been made out upon which to base an appeal for an amendment to the present law, which would first distinguish between the prevention of conception and abortion; and, secondly, would permit the physician to carry out under legal sanction a moral and medical duty which he at present could only fulfill by ignoring or violating the law. This report was signed by Drs. A. Jacobi, A. L. Goldwater, and S. A. Tannenbaum.

Dr. Ira S. Wile, in opening the discussion, said that the resolutions presented during the executive session of the meeting with reference to the anti-narcotic laws contained an accusation against the medical profession as being responsible for drug addiction and as taking no interest in the enactment of laws for the control of the drug evil, and the Society was now attempting to dodge its responsibility in the matter of birth control on the ground that in meeting this problem honestly and squarely they would be descending from their high ideals. It would be more timely and wiser to consider this problem at this time. He had understood that it was the medical aspect of the subject that was to be discussed. Thus far every other aspect of the subject had been touched upon but the medical yet this phase of the problem concerned the doctor more than anyone else, for all knew that this Society contained members who performed illegal operations and gave advice in regard to contraceptive methods. The majority report stated that in cases in which this was necessary the physician was safe in giving it, and that even if he were arraigned for violating the law no court would convict him. They should have been ashamed to take such a view, to say "It is illegal, but if you do it the law will not convict you." If it was wrong it should not be done at all, whether it was legal or not.

Dr. John H. Claiborne said that according to the printed notice received by him and, he presumed, by all the members of the County Medical Society, a Committee of One Thousand respectfully urged him to be present at this meeting to endorse a conservative and dignified amendment of Section 1142 of the Penal Code, State of New York. The proposed amendment read as follows: "Nothing in this statute shall be so construed as to prohibit any duly licensed physician from prescribing for his patients the methods of preventing conception." This amendment, he had been informed, had been indorsed by more than 1,000 citizens, and among them were cited the names of six physicians, presumably of this Society, men of recognized position and distinction in their profession. Contained in this notice was a printed slip stating, "I am in favor of amending Section 1142 of the Penal Code, State of New York, to permit duly licensed physicians to prescribe for their patients methods of preventing conception." Below this was a blank space for the name and address of the member to whom it was addressed for his signature. From this method of arrangement he said he would conclude that it was expected of the member that he sign his name in acquiescence of this proposed amendment. As a member of this Society he not only declined to sign it, but he protested against it with all the vigor with which he was capable, as a man who loved his country and his civic duty, as a humanitarian and respecter of the laws of God and man. He did not for a moment doubt that those who had signed this request were sincere in their convictions. He did not doubt any less that those convictions were based upon mistaken premises and disregard of the principles he had referred to. It was useless to go into this discussion deeply, but in a general way he based his objections to it on the ground that no man had a right to control the laws of nature in the matter of reproduction. The prevention of human life he conceived to be a crime second only to the destruction of it. For such an amendment, therefore, it was impossible for him to vote, and he not only declined to do so, but protested against this amendment with all his vigor.

Dr. Frank Van Fleet said he wished to enter a protest against the charges which had been brought against the medical profession and members of this Society, namely, that there were members within the ranks of the Society who performed criminal abortions. If any man made such a charge he was in honor bound either to present the names of the offenders or to make an apology. It seemed that it was only for the poor that birth control was needed, but it must be remembered that it was from the poor that many of our best citizens came. If in that old cabin in Kentucky, where the direst poverty dwelt, Nancy Hanks had been furnished with the knowledge that it was now proposed to disseminate, and had seen fit to use it, Abraham Lincoln would never have been born and the history of the United States would have been different from what it was. "There is a destiny that shapes our ends, rough hew them as we will." We might with safety interfere with the laws that governed plants and animals, but when they interferred with human beings "God moves in a mysterious way, His wonders to perform." There were higher forces at work than we were able to understand and it was most unwise for this County Medical Society to enter into such a scheme as this.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Orthopedic Surgery

BY

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and

A; BRUCE GILL, M. D.

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The Transplantation of the Articular End of Bone, Including the Epiphyseal Cartilage Line, by Haas, Surg., Gyn., and Obstet., September, 1916.

Haas found when the epiphyseal cartilage was transplanted it ceased to functionate. The longitudinal growth of the transplanted bone ceased. The epiphyseal cartilage line is the least transplantable of any of the components of bone

The articular cartilage undergoes practically no changes after reimplantation and it offers the greatest possibilities of successful transplantation of the various parts of a bone.

The marrow of a transplant appears to suffer an early complete necrosis. Later there is a gradual regeneration of the marrow, possibly from a few surviving marrow cells, possibly from new formed capillaries. The origin is not determined.

The bone trabeculae show early evidence of degeneration and later regeneration probably from the superficial osteoblasts.

The cortex dies and is replaced by a new formation of osseous tissue from both the periosteum and the endosteum.

The author believes that contact of the transplant with living bone is essential to the continued existence of the transplant and that function is not of prime importance.

Traumas of the Back and Spine.—By Pierce, Surg., Gyn., and Obstet., Sept., 1916.

The paper is based on the records of 758 cases, contusions or sprains of the back in which the period of disability exceeded one week.

Contusions produced a disability on the average of two to three weeks, and a number ran on two or three months. If they last longer than that, they are probably complicated by sprain or fracture or nervous symptoms.

In sprains, the spinal muscles were at fault in 80 per cent of the cases, and the articulations and ligaments in 20 per cent. Pain on straightening the spine indicates muscular injury, pain in bending indicates ligamentous injury. Sprains occur most frequently in the lumbar region. Eighty-seven per cent were due to indirect causes, such as lifting, pushing, pulling, carrying heavy loads, or sudden slipping. The ligamentous sprains are usually the result of falling upon the feet or buttocks or upon the back or shoulders. The period of disability in sprains is longer than in contusions.

Muscular strains are best treated by rest for a few days, and then massage and "setting up" exercises. The ligamatous sprains require a period of fixation. If after a treatment by massage and exercises, the pain is increased and no temporary relief is felt, then the sprain is probably ligamentous, not muscular, and should be treated accordingly.

A Simple Apparatus for the Treatment of Incipient Hip-Joint Disease, by Speer, Am. Jour. of Surg., Sept., 1916.

The two essentials in the treatment of hip-joint disease are extension to separate the surfaces of the joint and immobilization of the joint.

The author uses an extension apparatus at night which consists merely of a boot made of plaster and laced down the front so that it may be readily removed in the morning and replaced at night. To the foot of the cast is attached a cord and weight. For day use, there is a high shoe on the well foot and a heavily leaded shoe for the other foot and a pair of crutches. The weight of the lead keeps the hip extended and fixed. The child is thus kept in the open air all day long.

The Surgical Aspects of Infantile Paralysis, by Fenner, New Orleans Med. and Surg. Jour., Oct, 1916.

The surgical treatment of infantile paralysis begins practically with the termination of the acute stage, since it is necessary almost from the beginning of the disease to take measures to prevent deformities and overstretching of weakened muscles.

Deformities arise from various causes: (1) force of gravity itself, (2) adaptive shortening of the tissues as the result of prolonged assumption of one posture, (3) stretching of paralyzed muscles, (4) unopposed action of healthy and powerful muscles, (5) retarded development of the bones. Several of these factors may co-operate at the same time.

Operative interference is not called for until the third or final stage of permanent paralysis is reached. The operative procedures that may be employed are: (1) Manual stretching, (2) tenotomy, (3) tendon lengthening, (4) tendon shortening, (5) tenodesis, or tendon fixation—of value in maintaining a foot in a corrected position, (6) artificial silk ligaments—not reliable, (7) arthrodesis—very valuable in giving stability to a frail joint, (8) astragalectomy—Whitman's, for pes calcaneus and calcaneo-valgus, (9) tendon transplantation—most generally applicable, but cases must be wisely selected, (10) nerve transplantation—an uncertain procedure, (11) various other measures, such as bone grafts to stabilize joints or the spine.

Miscellaneous Abstracts

Appendicitis in Children.—J. Coleman Motley as a result of his operative work during the last five years, says in the Jl. of the A. M. A., that his chief object is to appeal to the general practitioner and through him to the parent, for a closer cooperation with the surgeons in an effort to give the child with a "belly ache" a better chance to live. Of 404 cases, 37 were in children with an operative mortality of 5.4 per cent. Of the 367 adult cases of appendicitis, there was also an operative mortality of two, or 0.54 per cent. The most constant symptom of acute appendicitis in children is leucocytosis, which ranges between 9,000 to 34,000, with the polymorphonuclears between 72 and 92 per cent. The high mortality among children seems to be due to the fact that the early symptoms are not clear-cut and defined as in adults, and are to be considered atypical. This leads to a confusion in diagnosis and also to the association of dietary indiscretions as the chief cause of all abdominal pains in children. Early diagnosis and early operation are indicated. Motley considers purgation in cases of appendicitis in children as one of the chief causes of the frequency of perforative appendicitis, but he does approve of an enema of soapsuds for relief of either an overloaded bowel or the pain in appendicitis He again begs for early diagnosis and operation as the only sure means of saving life.

Studies of the Spinal Fluid During Iodide Medication by Mouth.—Joseph H. Catton, in Jl. of the A. M. A., conducted examinations of the spinal fluid of persons under iodide medication to determine the presence of organic or inorganic compounds of iodide. Study 1 included observations on five patients on routine iodide medication, and

Study 2 observations on one person to whom very large doses of iodides were given. Two tappings were made, and at the first one as much fluid as possible was withdrawn; the second tapping being made some time later to ascertain whether or not the newly secreted fluid contained a greater amount of iodine, if any. As a result of the observations made Catton draws the following conclusions: 1. In the series of cases examined, regardless of the amount of iodine administered by mouth, no iodine or compounds of iodine were found in the spinal fluid. 2. Either iodine compounds do not pass the ependymal cells of the choroid plexus in any measurable quantity, or such iodine as does reach the spinal fluid is very rapidly fixed in the tissues.

Undescended Testicle in Children.—C. G. Mixter states, in Boston Med. and Surg. Jl., that in the past three years thirty operations have been performed for the relief of this malformation at the Children's Hospital, Boston. In seven cases the condition was bilateral, in nine the right, and in seven the left side was affected. In eighteen it lay within the inguinal canal, and in eight cases it was just outside the external inguinal ring. In two cases atrophy was noticed at the time of operation. In one the testicle was enlarged and thought to be tuberculous peritonitis. The age at operation ranged from twenty months to twelve years. The late result of operation was ascertained in twenty-six cases—four cases failed to report. The two cases in which atrophy was noted at operation showed no improvement in the development of the testicle, although the organ remained in the scrotum. Atrophy occurred in eight cases following operation. The age at operation had no bearing on the occurrence of atrophy. The one factor present in every instance where atrophy occurred was an interference with the spermatic circulation at operation. Mixter outlines his technique of operation in which he endeavors as often as possible to avoid sacrificing the spermatic vessels. He supplies statistics and concludes that a plastic operation by which the undescended testicle is placed in the scrotum without impairment to the circulation will be followed by normal growth. Where partial resection of the spermatic vessels is necessary atrophy may or may not ensue, while complete section of the spermatic vessels has been invariably followed by atrophy in a given series of cases, the blood supply from the artery of the vas being insufficient to nourish the developing testicle; this operation should be resorted to in children only under exceptional circumstances.

The Bacteriology of the Feces in the Diarrhea of Infants.—Logan, (London Lancet), gives the results of his research in this work as follows: Fourteen cases of diarrhea were all on artificial diet at the time of onset. The flora of artificially fed infants differs from that of breast-fed infants chiefly in a decrease of the acid-tolerant group, an increase in the normal B coli group, and in the appearance of members of the non-lactose-fermenting group along with some increase of cocci. The flora of infants suffering from diarrhea shows similar but more marked changes, and the more severe the diarrhea the more marked the changes. It is possible that the acid-tolerant group exerts a beneficent influence in restraining the growth in the intestine of the non-lactose-fermenting group. Bacilli of the non-lactose-fermenting group were obtained from 6 out of 21 (28.5 per cent) infants and young children who were free from diarrhea. Bacilli of this group were isolated from 11 out of 14 cases of diarrhea (78.5 per cent). Bacilli of Morgan's No. 1 group were isolated from 9 per cent of the normal children, and from 35 per cent of the cases of diarrhea. True, though non-agglutinable, dysentery bacilli were isolated from none of the normal children, but were obtained from three cases of diarrhea with blood and mucus (dysentery), or 21 per cent of total diarrhea cases. A certain number of cases of diarrhea of infants are therefore true bacillary dysenteries, even in Scotland and in winter time. It is doubtful whether the overgrowth of non-lactose-fermenting bacilli initiates the diarrhea, or whether it is a secondary and aggravating factor.—Med. Record.

Oxygenated Milk.—Clifford G. Grulee (New York Med. Jour.) gives an account of the process of producing oxygenated milk in the Presbyterian Hospital, Chicago. It was installed in 1915 by a Danish chemist, N. D. Neilsen, on a plan following the scheme of Doctor Budde in Copenhagen, where it was introduced in 1903. This milk takes the place of certified milk for children and infants, and is distinctly cheaper. The process is as follows: Good raw 4 per cent milk is treated with hydrogen peroxide, one quart to twenty gallons; it is then heated to 122 degrees—128 degrees F.—for one-half hour, being stirred by a fan in the reservoir so that it is kept in motion the whole time. The milk is then withdrawn and bottled hot, and kept on ice until used. This is a preserved milk without any preservatives, because at the end of a half hour's treatment only a trace of the hydrogen peroxide can be obtained. By this process the milk is made sterile and therefore all bacteria are inactive, rendering the milk safe from distribution of pathogenic organisms. The advantages offered by this process are that fresh milk can be obtained at any time of the day or night, its absolute safety, and the fact that it can be kept as long as two weeks at room temperature without souring during the summer months, thus insuring greater safety. Grulee says that theoretically the chemical change is only a destruction of the catalase enzyme in the process of splitting the hydrogen peroxide. However, he found that oxygenated milk cannot be used in the preparation of buttermilk, as it prohibits the growth of the necessary bacteria.

Eczema in Childhood.—Read before the Med. Ass'n of the Greater City of New York, by Dr. George W. Crary, (N. Y. Med. Jour). See page 9.

Dr. Charles Herrman said that he would limit his remarks to a discussion of the constitutional eczema of infants, which was a congenital anomaly, a disturbance of metabolism manifesting itself in a peculiar sensitiveness of the skin and mucous membranes. This tendency was generally known as the "Exudative Diathesis." Doctor Herrman some time ago had called attention to the fact that some of these infants had sprue shortly after birth as the first visible manifestation of this tendency. It was important to remember that it was the infant, not the mother, that was at fault, so that as a rule nothing was gained by giving the baby to a wet nurse or substituting artificial feeding. He believed that too much emphasis had been laid on the possibility that one particular constituent of the food, as fat, sugar, or salts, was at fault. Treatment based on such a view would fail if followed uniformly in all cases. This would explain the difference of opinion with regard to the value of Finkelstein's method, the view was too narrow. It might be compared with former conceptions in diabetes, where the carbohydrate metabolism was supposed to be solely at fault. Overfeeding was an important factor as we should expect in any disturbance of metabolism, but too great a loss in weight was not without danger. The relation to thyroid insufficiency was not proved. Doctor Herrman had observed a large number of cases of sporadic cretinism over a period of years, some had come under observation during the first six months of life, and he had not noted any special susceptibility to eczema in them. Thyroid extract had a marked effect upon the fat metabolism and possibly its beneficial effect in some cases might be explained in that way. Sudden death occurred in a few days. Doctor Herrman had such a case in his hospital service some years ago. It was not necessarily associated with status lymphaticus, for in a great many cases the changes characteristic of that condition were absent. Death was probably due to degeneration of the heart muscle similar to that complicating diphtheria. A careful microscopical examination had shown such, and degenerative changes were also noted in the kidney. These changes were probably caused by bacterial toxines, indeed Hutinel had been able to demonstrate organisms in the blood during life in two cases. Doctor Herrman had seen a severe facial eczema in an infant in which the eye became infected and perforation of the cornea resulted, the child dying a short time after. A certain number of cases of constitutional eczema resisted all forms of treatment for some time. Most of these showed improvement after months without any radical change in the diet or method of treatment. In acne the same had been noted after puberty. To say that it may be due to a disturbance in the secretion of one or more of the so called ductless glands was merely hypothetical. We do not know. The more imperfect the feeding as to quantity and quality the more likely we are to obtain improvement by regulating the diet. When special idiosyncrasies to certain foods are present, these are excluded.

Treatment of Poliomyelitis.—Royal Whitman (Medical Record, December 16, 1916) states that preventive treatment of deformity consists in moving the joints of the affected part through their full range of motion at least twice a day that all muscles may be extended to their normal limit. Attitudes that lead to deformity must be avoided and the child must not be allowed to stand or walk on weak or uncontrolled limbs. Nutrition must be preserved in the paralyzed limbs and this may be aided by gentle massage, hot baths, and electricity. Electrical treatment is merely a local stimulant of nutrition and is better adapted to adults than to children, as the latter are usually frightened by its application. Muscle training, while of value, has its limitations, as paralyzed muscles cannot be trained. However, in suitable cases if properly applied it lessens the tendency to deformity and aids restoration to muscles where they are susceptible to restoration. Braces are used to prevent deformity and to prevent locomotion. Plaster supports may be applied temporarily to rest the inflamed spinal cord and hold the uncontrolled and sensitive limbs in position. Braces are employed to protect the weak muscles and lessen the strain on joints which otherwise would induce deformity. Properly regulated functional use of muscles is the most powerful aid to recovery and it is often necessary to use supports to aid such exercise. Operative treatment may be indicated after several years when the amount of permanent paralysis can be accurately determined.

Treatment of Infantile Paralysis—F. E. Peckham (American Journal of Electrotherapeutics and Radiology, October, 1916) urges great care to prevent overstretching of the affected muscles during the acute stage of infantile paralysis Removable braces should be employed to keep the strong muscles stretched out. To relieve pain and dissipate infiltrations and edema in various parts of the body Peckham recommends the use, as early as practicable, of the static wave current and light wave treatment. The static wave current is applied over the lumbar spine for twenty minutes and the weakened or paralyzed muscles then exposed to a 500 candle power lamp, screened with blue glass, for a like period. This blue light causes pain to disappear in the painful stage of the disease. The lamp is also applied over the lumbar spine. Immediately after, the pain and tenderness in the affected muscles having been thus removed, vibration treatment is adopted to these muscles, followed by gymnastic movements. The splints are removed for these treatments, which are given three times weekly. The manipulations rendered possible by the relief of pain and tenderness resulting from the blue light lead to preservation of the elasticity of the strong muscles. The apparently paralyzed muscles often respond promptly to the treatment, which by permitting of earlier mechanical care of these muscles, tends to prevent or reduce deformity and obviate subsequent surgical procedures, such as tenotomy, for its correction. The gymnastic exercises with or without resistance, are of great importance and should never be neglected. In neglected cases, especially where the weakened muscles have been pulled around by the strong, the stretched muscles show prompt response.

BOOK REVIEWS

Roentgenographic Diagnosis of Dental Infection in Systemic Diseases, by Sinclair Tousey, A.M., M.D., Consulting Surgeon, St. Bartholomew's Clinic, New York. Cloth; price $1.00. Pp. 75, with 38 illustrations. New York: Paul B. Hoeber, 1916.

The illustrations in this small book are reproductions of roentgenograms, the majority of which are from films, held inside the buccal cavity during exposure. It is regrettable that most of them do not show distinctly what is intended to be conveyed. If descriptions and explanations immediately followed the illustrations, it would add much to their value. The dental nomenclature we regret to see is many years behind the times. The author shoots far afield of his title in attempting to suggest treatment for dental difficulties, with the pathology of which he is not entirely conversant. A few very interesting case histories of the maxillary bones are given illuminated with very good roentgenograms, which serve to emphasize the necessity for roentgenographic examinations of the mouth in all cases where focal infection is suspected.

Preventive Medicine and Hygiene, by Milton J. Rosenau, M.D., Professor of Preventive Medicine and Hygiene, Harvard; Director of the school for health officers of Harvard University and the Massachusetts Institute of Technology; Formerly Director of the Hygienic Laboratory, United States Public Health Service, etc. Second edition, thoroughly revised. 1074 pages, 157 illustrations, handsome cloth bindings. $6.50 net. D. Appleton & Co., New York and London.

No man is better qualified to write a work on Preventive Medicine and Hygiene than Dr. Rosenau, who, for twenty-five years, has been actively engaged in public health work as quarantine officer in epidemic campaigns, in epidemiological investigations and in public health laboratories, at home, on the continent and in the tropics.

This work includes those fields of the medical and related sciences which form the foundation of public health work. Each important communicable disease is discussed separately from the point of view of distribution, modes of transmission, diagnosis, preventive measures, resistance, immunity and prophylaxis. Not only does Dr. Rosenau tell how to prevent those infectious diseases which can be prevented, but he also tells how to manage them and keep them from spreading. He covers environment in its relation to health and disease, food, water, air, soil, disposal of wastes, vital statistics, occupational diseases, industrial hygiene, school hygiene, disinfection, quarantine, isolation, and other subjects of sanitary importance in a preventive campaign.

In this revision much new material has been added bringing it right up to the minute and with the last word on—The Prevalence of Venereal Diseases, Chancroid, The Schick Reaction, The Bang Method of Suppressing Bovine Tuberculosis, Organization of a Local Tuberculosis Campaign, Tuberculosis Sanitaria and Dispensaries, Emetine, Insecticidal Agents Especially for Lice and Fleas, Standardization of Bacterial Vaccines, Sensitized Vaccines, Nuisances, Roaches, Feeblemindedness, The Wasserman Test, Relation between Host and Parasite, Essential Requirments for a Safe Milk Supply, Butter, Desiccated and Condensed Milk, Streptococci of Sore Throat, Sodium Fluorid, Hydrofluoric Acid, Cancer Heredity, Tests for Heated Milk, Echinococcus Disease, Carbon Dioxide in Alveolar Air, Sanitary Significance of Odors, Ocular Hygiene, Hydrogen Sulphide, Methane, Accidents in Sewers and Their Prevention, Reinspiration of Expired Air, Air Washing with Reference to Ventilation, Water Purification and Sanitary Analysis of Goiter, Sanitation of Swimming Pools, Etc. The following chapters have been rewritten in whole or in part: Leprosy, Mushroom Poisoning, Beriberi, Pellagra, Carbon Monoxid, Chlormated Lime, Vital Statistics (Trask), Disinfection, Quinine Prophylaxis for Malaria, Mental Hygiene.

This work is of momentous importance to the general practioner; it not only tells how to prevent infectious diseases, but contains advice just how to manage them and prevent their spreading. For the county, city and state health officers, there is no more important book published. No question of sanitation, isolation, disinfection, quarantine, the disposal of waste, vital statistics, etc., that might arise will remain unsettled, if he will consult this work.

From a literary standpoint, the excellence of the text is beyond criticism. The author's intimate knowledge of preventive medicine and hygiene, his exceptional training in public health matters, and the judicial manner in which he handles his subject, combine to place him in the front rank of modern preventive medicine. As a reliable work of reference, it is heartily commended, and for a one volume work, it will serve as a standard for many years.

The Physician's Visiting List for 1917. Flexible leather, wallet-shaped, with pencil, in three styles: weekly, monthly, and perpetual editions. P. Blakiston's Sons & Co., Philadelphia. Price, postpaid, $1.50 to $2.50, according to style.

This visiting list, besides the usual blank spaces for record purposes, contains likewise the usual printed matter—calendar, utero-gestation table, poisoning, weights and measures, etc.—in addition to which we note an American table of mortality, height and weight table, while the dose table is brought up to date and includes an entirely new list prepared in accordance with the new U. S. Pharmacopoeia (1916). This list, which gives the dose in both the apothecary and metric systems, is an exceedingly useful feature, as there were many changes, improvements in standards, new drugs and other material inserted.

A Treatise on the Principles and Practice of Medicine, by Arthur R. Edwards, M.D., Professor of the Principles and Practice of Medicine and Clinical Medicine and Dean of the Northwestern University Medical School, Chicago. New (third) edition, thoroughly revised. Octavo, 1022 pages, with 80 engravings and 23 full-page plates in colors and monochrome. Cloth, $6.00, net. Lea and Febiger, Philadelphia and New York, 1916.

The merit of Professor Edwards' work has won the practical recognition of a demand for a third edition. It is the product of an experienced physician, a notable teacher, and an unsparing worker. No less efficient combination in the person of one man could adequately exhibit present-day medicine in a single volume of convenient size. This he has done, and in excellent perspective making a well-proportioned book, properly directed, as he says in the Preface; that is, with everything necessary, and everything leading up to the final object of medicine, namely, treatment. Thorough systematization is employed for brevity and ease of consultation, and for the even more important advantage thereby secured that facts arranged in their natural order lead into each other and impress the underlying reasons on the reader's mind. Critical study of his own work, and careful consideration of the reviews, have led the author to adhere to the plan and features that have proved so popular, but he has spared no labor in improving it to the utmost. The work has been practically rewritten to secure increased clearness and conciseness. All the real advances throughout this immense domain have been incorporated. Particular attention has been given to therapeutic details in accordance with the recent awakening of the profession to the importance of logical treatment. Numerous new preparations and modified dosages, particularly for children, are explicitly specified. In a word, all classes of readers, students and practitioners alike, will find this very broad and skillful work admirably suited to their requirements.

The Diseases of Infancy and Childhood, for the use of Students and Practitioners, by L. Emmett Holt, M.D., Sc.D., LL.D., Professor of Diseases of Children, College of Physicians and Surgeons, New York; Attending Physician, Babies and Foundling Hospitals, New York. Assisted by John Howland, A.M., M.D., Professor of Diseases of Children, Washington University, St. Louis; Late Associate in Diseases of Children, College and Physicians and Surgeons, New York. Seventh edition, with two hundred and fifteen illustrations, including thirteen colored plates. New York and London. D. Appleton & Company, 1916.

This seventh edition of Holt's well-known book reflects further credit upon the authors because so many sections have been rewritten. This has been made necessary by the rather rapid advances which have been made during the last two or three years, particularly along the line of the infectious diseases of children. Among many other lines, there has also been a less marked advancement, and these have received due recognition, and while these advances have been noted, there has been a corresponding elimination of much of the older material, so that the whole volume is not needlessly enlarged. In most instances this curtailment has not taken materially from the value of the abbreviated chapters.

There is scarcely a page in the book but has been subjected to revision. Sixteen new articles appear for the first time in this edition. The more important ones are: Acidosis, Neuropathic and Exudative Diathesis, Cardiac Arrhythmia, Acute Lymphatic Leukemia, Banti's Disease, Osteogenesis Imperfecta, Still's Disease, Syphilis of the Nervous System, Pellagra, Epidemic Catarrh, Duodenal Ulcer, and Idiosyncrasies to Food Stuffs.

More than twenty chapters have been almost entirely rewritten, the most important being those upon Birth Paralyses. Milk and Infant Feeding, Digestion in Infancy, Chronic Intestinal Indigestion, Hirschsprung's Disease, Asthma, Accidental Heart Murmurs, Hydronephrosis, Gonococcus Vaginitis, Tetany, Convulsions, Epilepsy, Hydrocephalus, Poliomyelitis, Diseases of Ductless Glands, Diabetes, Hodgkin's Disease, and Tuberculous Adenitis.

This work reflects the mature experience of a keen observer of the best and latest knowledge in pediatrics. It is well balanced in every way, both as a text book for the student, and as a reference book for the general practitioner, taking rank with the best thought in pediatrics of any language and any tongue, and is not surpassed by any other treatise on the subject. This volume is an example of all that is best in pediatric knowledge and should have a place on the library table of every physician who would be abreast with the times and who desires to do his very best for sick infants and children.

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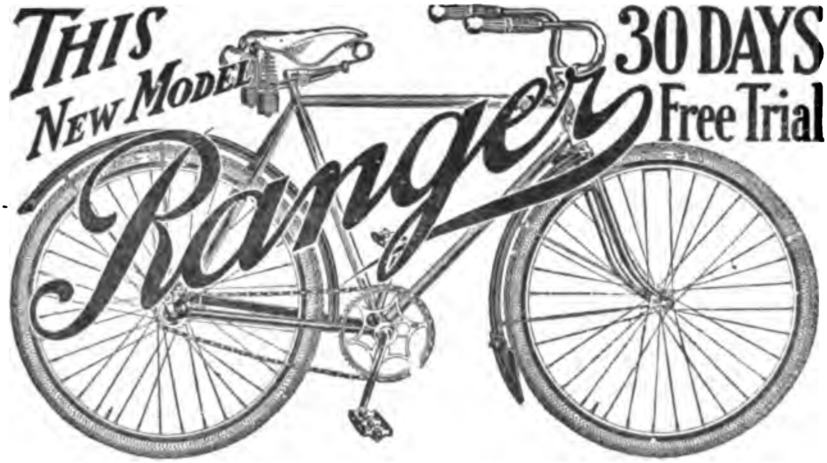

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Vol. XXIX FEBRUARY, 1917 No. 2

EDITORIAL

THE HOSPITAL TREATMENT OF SIMPLE CHOREA

The treatment of simple chorea was discussed at some length and definite rules laid down by Dr. Pearce Bailey, of the Neurological Institute, New York, in the New York Medical Record, September 23, 1916.

In the first place, however, before dealing with the question of treatment, it may be as well to point out that chorea is fairly common among American children and especially among those who live in cities. The American child is of a more highly nervous temperament than is probably the child of any other country. Simple chorea usually appears before the age of sixteen years. After that age, according to Bailey, it indicates either a pronounced rheumatic tendency, or else previous attacks of chorea ineffectually treated. It may be also, says the same writer, and this is a most interesting statement, an indication of abdominal conditions.

The hospital treatment found successful and advocated by Bailey is simple in the extreme. Rest and isolation are the anchors of successful treatment. That is, rest in bed with curtains drawn, and no communication allowed with other patients in the ward and no visitors. In certain cases, cold packs were given, and in the presence of rheumatic history, and even without it, rheumatic remedies, especially asperin, were prescribed. In a few violent cases, lumbar puncture was employed, which when the cerebro-spinal fluid was under increased pressure, seemed to diminish the movements very promptly.

However, the fundamental principles of treatment of simple chorea in children, as practiced successfully in the Neurological Institute, consists of complete rest for several weeks. The general conclusions drawn by Bailey and his fellow physicians, from cases of chorea treated in the Institute, are that by rest and seclusion, when the treatment is extended over a reasonable period, chorea can be permanently cured without much danger of a relapse, and in view of the usual relapsing tendency of the disease, they feel that the treatment of chorea is one of the most important functions of a neurological hospital.

THE INFECTIVITY OF MEASLES

The infectivity or perhaps, rather, the degree and means of spread of measles, has for long been a fruitful subject for discussion. Certain it is that measles, when once originated, will spread very rapidly in schools and a good deal of curiosity has been exhibited as to the mode by which the infection is conveyed. As "The Medical Officer," January 6, 1917, points out, the spread of measles in a school has been attributed to one or more of the following causes: 1. The "school," 2. The school books, 3. The presence of the infectious child.

Dr. John D'Ewart, Assistant School Medical Officer of Manchester, has issued recently the result of some observations on the matter made by him. On account of the taking over of a school "A" by the British War Office; the infants from this school were transferred to school "B." These schools serve almost entirely different areas, the amount of overlap being comparatively small, the problem is not modified by the fact that the children come from the same area. School "B" is occupied by each department one-half day each day, and the departments attending in the mornings one week, attends in the afternoons next week. School "B" consists of separate class-rooms. The interval between the forning and the afternoon session is one hour. Early in June, an outbreak of measles commenced amongst the children attending school "B." A considerable proportion of these cases attended school on the four days preceding the rash during which the child is infectious. Classes were affected using separate class-rooms. During this period school "A" continued the usual alternation, using the same rooms and desks but not the same material. No cases occurred during this period. No special precautions were taken, but the rooms were flushed with fresh air in the intervals between the sessions. Dr. D'Ewart claims that an instance of this kind effectively disposes of the "school" theory, whislt those advocating the "books" theory have to account for the fact that the desks, which are occupied all the time, do not carry infection, although books only used for a very short periods are assumed to retain the infection for an indefinite period. He therefore concludes, that measles is obviously air borne, and that thorough ventilation for one hour is ample to so dilute the infection as to render it innocuous. By air borne D'Ewart obviously means that the air of a closed room becomes infected with the germs emitted from the mouths of the infected, which is really infection by transmission.

THE TEETH OF SCHOOL CHILDREN

Out of 330,179 school children examined in 1914 in the city of New York, 194,207, or 58.8 per cent, suffered from defective teeth. This exceeded the sum total of all the other defects noted by nearly 80,000. Defective teeth impair general health and impede school progress. Disorders of the digestive tract, tuberculosis, and various other diseases frequently are preceded by diseased conditions in the mouth. There is a direct relationship between dental development and mental development, and it is absolutely essential to good work in schools that children's teeth be maintained in a healthy condition. The United States Public Health Service recommends that a good tooth brush be included in the list of Christmas presents for every American child and that its use be made a part of the daily training.

NEW CHILD LABOR LAW

The amended form of the Child Labor Law, known as the Wellington Act, which went into effect in New York on February 1, provides that no employment certificates shall be issued unless the applicant has reached the age of fifteen years and has completed Grade 6B or its equivalent, except that a child who has been graduated from a public school may receive an employment certificate at fourteen years. No changes are made in the law in the requirements regarding physical fitness. In its present form the law seems to meet the necessities of the situation in admirable fashion, and its enforcement may be expected to result in great benefit.

PEDIATRICS

ORIGINAL ARTICLES

THE SOURCE OF HUMAN PROGRESS

BY CASPER L. REDFIELD
Chicago

The person interested in human heredity should get in mind as clear distinction between the theory of Lamarck and the theory of Darwin. To get this distinction it will be necessary to dismiss from consideration all current descriptions of Lamarck's theory because they all represent that theory as seen with Darwinian eyes.

Lamarck's theory is a theory of evolution as distinguished from species-forming, while Darwin's theory is a species-forming theory as distinguished from a theory of evolution. Lamarck had a good deal to say about species because that was a foremost topic of consideration in his day, but species-forming is not the subect of his Zoological Philosophy. Darwin wrote on the origin of species and not on evolution. In fact, Darwin disclaimed any knowledge of evolution when he said that we are totally ignorant of why one race of men has risen from savagry and another has not.

These remarks bring up the question of the distinction between evolution and species-forming. Heretofore these two things have been confused and considered the same, because evolution has been looked at solely through species-forming eyes. They are, however, fundamentally different. What is true of evolution is not true of species-forming, and what is true of species-forming is not true of evolution. Those factors or circumstances which act to accelerate or promote species-forming act at the same time to retard evolution, and those factors which accelerate evolution simultaneously act to retard species-forming.

Species are distinguished from each other by such things as color markings on hair or feathers, shape of toes or ears, length of tail or beak, or any other small peculiarity which naturalists may find and use for distinguishing one group of animals from another. Lamarck speaks of these things as non-essential and trivial in the extreme, and he repeats that statement in variant language many times over. He also says that species have no existence in nature, and are nothing but an artificial classification by man for purposes of convenience. By these remarks he tries to make it clear that the theory which he is advancing is something fundamentally different from species-forming. Any comment which refers to Lamarck's theory as a species-forming theory, or as a rival theory to that of Darwin, may be dismissed as wholly misrepresentative. The so-called "Lamarckian theories" are simply abortive attempts to make oil and water mix. They do not represent anything advanced by Lamarck.

When we speak of the "higher animals" we are not referring to any of those characteristics by which we distinguish one species from another. When we say that man is higher than the ape, that the ape is higher than the ox, that the ox is higher than the snake, that the snake is higher than the clam, and so on, we do not have in mind any of those peculiarities of form or color which are the basis for species classification. What we have in mind by such statements is something totally different from species-forming characteristics, and that different thing is evolution. When we say that one man is superior to another man, that one horse is superior to another horse, that one cow is superior to another cow, and that one dog is superior to another dog, we are recognizing something very definite, yet we are remaining with the same species in each case. That thing so recognized is evolution and is totally distinct from species-forming.

Those characteristics by which we classify one animal as superior to another are not definable in any terms of color, form or structure. An attempt to say that white is a superior color, because the white man is the highest, immediately runs into the fact that a black man is superior to a white mouse. An attempt to say that a biped is superior to a quadruped runs into the fact that a horse is superior to a hen and a dog is superior to a duck. And so it is with the size, shape or numbers of any organs. There is no characteristic used by naturalists to distinguish species from each other which can also be used for determining that one animal is superior to another.

Those characteristics by which we classify one animal as superior to another are definable only in terms of power, and power is a totally different thing from color, form or structure. All animals have power in some degree, and structure is necessary to enable them to exert that power. But that is not an excuse for confusing the two. The failure to distinguish between structure and the power necessary to drive it has carried many a man to the insane asylum. That power in an animal is identical with the power known in mechanics may be seen from the fact that a foot-pound of work performed by a man or horse does not differ in any respect from the foot-pound of work performed by a steam engine or a windmill.

Work performed by the animal is a factor, really the cause, of evolution. That is Lamarck's theory. Selection is a factor in species-forming. That is Darwin's theory. What neither of them recognized, is that work by the animal has nothing to do with species-forming, and that selection has nothing to do with evolution.

What is here meant by work is the total quantity of work measured in foot-pounds, or some other unit, in some unit of time, as a century or a thousand years. What is meant by selection is the quantity of selection as measured by the number of individuals from which selection is made and the number of times it is repeated in a similar unit of time. Work is not going on when the animal is sleeping. To have any considerable quantity of work there must be considerable activity. Selection is reduced to zero when there is only one animal to select. To accomplish anything by selection it must be of one from a plurality, and it must be repeated a plurality of times.

Each generation offers opportunity for selection to operate. The more frequently the generations follow each other the greater is the amount of selection in any given period of time, and the more it can accomplish, if it accomplishes anything at all. To lengthen the time between generations is to cut out selection and thus prevent it from operating.

Each generation introduces a period of gestation, and during gestation the new animal is sleeping—is not working. The more frequent the generations the more there is of idleness and the less of work in a given period of time. To lengthen the time between generations is to increase the work and decrease the idleness.

It will thus be seen that the amount of work and amount of selection in a given period of time, as a century, stand in direct opposition to each other. What increases either necessarily decreases the other.

The advancement of any kind of animal in evolution from a lower to a higher stage is represented exactly by the amount and kind of work performed per generation before reproducing, provided only that the lengths of the periods of gestation do not materially differ. Man is superior to the ape. That superiority did not come by selection, because, in the line of descent leading to man, the amount of selection was reduced and the amount of work increased over what continued to exist in the line leading to the ape. Man reproduces at about twice the average at which the ape reproduces, and he performs more than twice as much work per generation before reproducing.

The operation of evolution, as distinguished from species-forming may be seen by comparing other animals in the same way. It may also be seen in trotting horses under conditions which preclude species-forming changes. The 2:10 trotters of today are descended from horses of a hundred years ago which could not trot a mile in three minutes. That is a great improvement, and that improvement is strictly evolution. In normal horse-breeding operations there are ten generations to the century, and in selective horse-breeding there are twelve to fifteen or more generations in that time. But to get that improvement, the number of generations in a century was reduced to seven, thereby reducing selection to only a fraction of its normal amount. And selection was further reduced in the improving lines by the fact that the horses in those lines had few offspring. In many of the steps from the three-minute trotters to the 2:10 trotter, selection was absolutely eliminated by mares producing only a single foal to continue the line.

But the improvement did not come simply because the horses were old. It came from old horses only when those old horses had seen many years of hard work before being bred. It came from horses which had earned their oats on the road, and not from those which earned them in breeding operations. And the amount of improvement is directly represented by the amount of work performed before reproducing. The facts for this are very definite and precise, and are beyond all dispute.

The same thing may also be seen by comparing different races of men with each other, and individual men with each other. Races of men which marry early reproduce at an early average age, while races which marry late reproduce at a late average age. Races of men which compel their youths to get their wives outside of the tribe, or to purchase them, interfere with early marriage, and are higher than those races which do not so interfere. Going over the different races of men it is seen that those races are highest which interfere most with early reproduction, and those races are lowest which interfere least. That advancement which we value represents evolution and not species-forming.

Our Newtons, Franklins and Pasteurs are the same species, and even the same race, as their feeble-minded neighbors. The powerful-minded and the feeble-minded are from common ancestors only a very few generations back. But the difference in the two lines of descent from those common ancestors is a difference in the amount of mental work performed per generation before reproducing. The eminent men came from ancestors who did much work, while the feeble-minded men came from ancestors who did little work. This may be seen very distinctly in the rates at which the two lines of descent reproduced. Eminent men are a product of reproducing at the rate of about two and a half generations to the century, while feeble-minded men are mostly a product of reproducing at the rate of about four or more generations to the century.

THE TEETH IN RICKETS*

BY J. LAWSON DICK, M.D.

Defect in the calcium metabolism, especially in the laying down of calcium salts throughout the skeleton, is the most prominent feature in rickets, and the one responsible for most of the physical signs which mark the disease. Nowhere is this factor more marked than in the teeth. In rickets caries is exceedingly common, and hypoplasia, or defective calcification of the enamel, is well marked. A hypoplastic condition of the teeth is characterized to the naked eye by a defective formation of the enamel, and frequently stunted growth of the teeth. There may be only a pitting, producing a honeycombed appearance of the enamel, or the enamel covering is slight, and the cutting edge of the teeth presents sharp points giving a characteristic appearance to the tooth. The defect usually extends from the cutting edge and may, in severe cases, involve the whole crown. As in syphilis, the condition is found typically in the permanent dentition, but whereas notched incisors and the contracted first molars of syphilis are but rarely met with in school children, the hypoplastic teeth of rickets are common. In everyday life one constantly sees these teeth and notes how well they often last. Thus frequently a smoker is seen whose teeth have been worn down in depth, and only short stumpy teeth are left, with a layer of enamel all round the cutting edge and the dentine exposed in the center of the biting edge.

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*Social Hygiene—London.

The calcification of the teeth begins about the fifth month of intra-uterine life, and the progress of calcification at various periods should continue normally for both the temporary and permanent teeth.

The only teeth of the permanent set which show any signs of calcification at birth are the cusps of the first molars. In the typical form of hypoplasia commonly met with, the teeth affected are the central and lateral incisors, the tips of the canines, and the crown of the first molars. The condition is symmetrical, affecting both jaws. Usually the depth of the defect is greater in the enamel of the central incisors than of the lateral incisors, and it will be noted that the enamel affected is identical with that laid during the first two years. This condition is almost pathognomonic of rickets. Rickets is the only condition which interferes with the deposition of calcium over this prolonged period.

In cases of acute illness, especially fevers, the finger-nails are apt to show grooves marking the state of depressed growth of the cells of the bed of the nail during the progress of the disease. In the case of the teeth a groove more or less broad, or even a succession of grooves with healthy enamel in between, may mark attacks of grave illness in the child. Frequently, without a history, a shrewd guess can be made at the period of occurrence of some serious illness, by the part of the enamel of the teeth which is affected. But it is usually a grave and prolonged illness which thus leaves its mark, more especially measles, followed by whooping-cough. Scarlet fever is less likely to have this effect. The internal secretory glands apparently play a large part in the defence of the body during attacks of infectious disease, and probably no gland plays such a large part as the thyroid. The thyroid apparatus, more especially the parathyroid, as pointed out by Loeb, is largely concerned in governing the calcium metabolism of the body, and any depressing cause which makes extra demands on the gland over a prolonged period when calcium is being actively assimilated and laid down in the bones and teeth, is liable to show itself in defects of the enamel.

Hypoplasia due to congenital syphilis is rare, whilst the form due to rickets is exceedingly common among school children. At birth calcification has involved the crowns of the deciduous incisors, the cusps of the deciduous canines and deciduous molars, and the tips of the cusps of the first permanent molars. The portions of the temporary enamel not yet calcified at birth in the temporary set frequently suffer from hypoplasia. Any disturbance in the function of the ameloblasts, the cells which, according to Tomes, either secrete the enamel or in which the calcium salts are deposited, will lead to the enamel being thin in parts, and to the lime salts being imperfectly laid down, so that the compact enamel is more easily disintegrated. In other words, the agents which determine the tendency to decay are those which affect the soft enamel organ in the earliest history of the tooth, and not those which affect the enamel after the tooth has been erupted. Ewan Waller holds that alterations in the quantity and quality of the saliva in hypothyroidism are prime factors in the causation of decay. Lactic acid produced by fermentation of carbohydrates is generally held to be the chief factor in producing caries. Waller believes that in thyroid inadequacy the partoid saliva is rendered less alkaline, or actively acid, from deficiency of calcium bicarbonate in the saliva and that, therefore, the saliva fails to neutralize the lactic acid. Possibly this is a factor, but the chief factor is probably the manner in which the calcium salts are deposited in the soft enamel organ.

Sea-faring communities are said to have good teeth, and this is generally attributed to the action of ozone and pure air. But more likely causes are the favorable conditions under which children of such communities are brought up in early life as regards fresh air, sunlight and ventilation, and the consequent better balance of the internal secretions controlling the processes of growth throughout the body.

In judging of the presence of hypoplasia it was found practically impossible to make accurate observations on the temporary teeth of infants of school age. Caries was so universal and extensive that it completely masked the hypoplasia. It was evident that a hypoplastic condition of the teeth was common in the temporary set, and was, in all probability, the chief factor in bringing about premature decay. For the purposes of statistics only the records of the permanent dentition have been taken, and in marking a case as one of hypoplasia only the severer forms are admitted, and cases of slight pitting, chalky looking patches in the enamel, and so on, have been excluded, although microscopically such teeth would be found markedly defective and liable to disintegration. Of the 586 rickety cases in which a record of the permanent teeth could be taken 42 per cent had normal teeth, 58 per cent had defective teeth, 20 per cent of these showed hypoplasia frequently combined with decay, and 38 per cent had decayed teeth. This is not equivalent to saying that 42 per cent of school children have normal teeth. As already pointed out, all infants with a record only of temporary teeth have been excluded because these teeth were so universally decayed as to make accurate observations on the structure impossible. Again, most of the children with records of the permanent teeth were about the ages of twelve or thirteen years, when all the permanent teeth have been erupted except the third molars, and caries has had least time to make its appearance. It is a somewhat quaint commentary on the general state of the teeth of the community to have to explain why only 58 per cent of the individuals are given as having defective teeth.

Of the cases with carious teeth, the lower first molar was decayed in 80 per cent, the upper first molar was decayed in 30 per cent, one or more lower premolars in 30 per cent, and one or more upper molars ip 12.5 per cent. The incisors, canines, and second molars were seldom decayed. The shape of the incisors and canines must protect them from many of the causes of decay to which the flattened grinding molars are subjected. The lower first molars decay out of all proportion to the others, and their earlier eruption is not a sufficient explanation of this. It is to be attributed rather to the main part of the enamel of the crown having been laid down in the first two years of life when rickety conditions are operative. Naturally the lower teeth which lie in the well of the mouth, will suffer more seriously from deleterious influences which surround the teeth.

Even though no microscopic change indicative of hypoplasia is to be found in these teeth, in all probability their microscopic character is distinctly affected. One practical point may be noted. Frequently on looking into a child's mouth, the two milk molars or the first permanent molar will be seen with blackened exposed dentine, and the enamel on the surface of the crown removed. Closer examination will show that these are still effective teeth and that there is no pyorrhœa or gum irritation round them. The surface of the tooth can be freely touched with the spatula. The dentine of the tooth seems to have become consolidated, and usually, though the teeth do not look well, they can be safely left, the process of decay having become arrested. Frequently it is not a process of decay in the ordinary sense, for the thin defective enamel on the surface of the crowns of the grinding teeth can sometimes be seen breaking off in distinct flakes. Again, many of the conditions conducive to rickets are present in the parents of these children, and a priori it might be expected that this would frequently be a congenital defect. In such a case in a certain proportion of children the milk incisors should show hypoplastic changes. The enamel of the crown of the milk incisors begins to be laid down about the seventeenth week, half way through intra-uterine life, and has progressed to a considerable extent at the time of birth. At birth half the crowns of the incisors, the tips of the canines, and the cusps of the molars are calcified in the temporary set, and by about six months after birth the calcification of the crowns is completed. Careful search for a hypoplastic condition of the milk incisors during a long period, both in school children and in the babies who have attended the Hackney Mothers' Center, has failed to detect a case. It is strong presumptive evidence that rickets is not a congenital condition, and is another instance of the care that Nature takes that, whatever else suffers, the germ at least is protected during the intra-uterine life. If in achondroplasia the milk incisors showed signs of hypoplasia, this would be excellent evidence to link it up with rickets as a congenital form.

A later form of hypoplasia is every now and then seen in which the two premolars and the second molars are affected, while the incisors, canines and the first molars are not affected. This later form of hypoplasia must be due to influences acting on the child from the second to the sixth year. Association has been recognized between lamellar cataract and hypoplastic teeth. Norman P. Bennett collected twenty-two cases of lamellar cataract, all of which showed well-defined hypoplasia in the permanent teeth, and in thirteen cases there was a history of convulsions while teething.

These symptoms are best explained by defective action of the glands of internal secretion, and are not infective in the sense of being due to the toxic action of a specific microorganism. The chief glands at fault are the thyroid gland, with the parathyroids and the thymus. The parathyroids are in a very direct way connected with the calcium nutrition. There is evidence to show that the thyroid and parathyoids can act vicariously, but under normal conditions the parathyroids are very specially associated with the calcium nutrition. The thyroid and thymus glands are both actively engaged in the nutrition and growth of the infant.

The lmyphatic system is at its highest development during infancy, the period when growth takes place apparently out of proportion to the amount of food taken in. In rickets the lymphatic system is developed to excess. The spleen is enlarged. The lymphatic glands, including those of the mesentery, are apt to be enlarged and hard. On section they are white and opaque. The tonsils are frequently enlarged, and adenoids are apt to develop. Often these children suggest the possibility of lymphatism or status lymphaticus, and sudden death during the operation for extirpation of tonsils and adenoids is not unknown. The life-history of the thymus is short when compared with that of the thyroid. The thymus shows a period of progressive growth and development during the first two years, after which, according to Friedenleben, retrogressive changes occur, until adolescence, when involution is complete. The thyroid has a wider range of action, operating not only during infancy, but retaining its function long after active growth has ceased. More than any other gland it seems to stimulate and control the other internal secretory glands of the body. How necessary it is to the growth of the child is shown by the caricature of growth produced in cretins, when its secretion is deficient or absent. In rickets there is a probability that the child is acted on adversely through the mother's milk owing to the absence or deficiency of some active principle normally present. Pritchard believes that the mother's milk contains a number of indefinable chemical bodies of the nature of ferments or antitoxins which confer upon the infant the same kind of resistance to disease that the mother herself possesses. There is a close relationship between the thyroid, including the parathyroids, and the sexual apparatus of the mother. At puberty enlargement of the thyroid is very common and not at all abnormal. Similarly, temporary enenlargement tends to occur during menstruation and pregnancy. Above all, great demands seem to be made on the thyroid and parathyroid during lactation, and failure is common; so that Trousseau described the tetany of nursing mothers as nurses' contracture. In such cases there is evidently an excessive drain of calcium from the tissues, producing an excessive muscular irritability, and at the same time the absorption and assimilation of calcium is defective. These mothers nurse their babies from eighteen months to two years and yet rear large families, so that thyroid exhaustion is produced and active principles are lost to the milk which are normally supplied when the gland is active. But poor quality of the milk alone does not cause rickets, nor does the absence of any particular constituent in the child's diet produce it. The general nutrition of Jewish children is, on the whole, very satisfactory, and the fat nutrition, on which so much stress is frequently laid in rickets, is exceptionally good. The intake and assimilation of food are good up to a certain point, but its utilization for the building up of the body is far from satisfactory.

THE CHILD AND THE TUBERCULAR PROBLEM

BY ROBERT M. KIRKWOOD, M.D.[*]
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As we review the results of our antituberculosis activities during the past decade or more we see results that are gratifying, yes—but should we consider them satisfactory? And as we look back over the methods of these activities, in the light of our present knowledge that tuberculous infection occurs for the most part in infancy and early childhood, does it not seem that in directing most of our preventive work at adolescence and adult life instead of at infancy and early childhood, in aiming it at the period at which it becomes an active infection rather than at the period of implantation of the infection we have gotten "the cart before the horse," as it were.

Does it not seem that until the past few years we have

[*] From Northwest Medicine.

sort of neglected the child in our fight for the prevention of tuberculosis? Just as it is easier to stay the waters of a stream at its source rather than after it has become a mighty river, so does it not seem reasonable that it would be easier to prevent tuberculosis by preventing, if possible, the infection of the infant or child than to try to prevent an implanted infection from becoming active tuberculosis.

No less an authority than Knopf has recently stated that we need never hope to solve our tuberculosis problem until we direct our preventive measures to a large degree toward the prevention of infection of the infant and the child.

Let us all then bend every effort to this end. How then shall we solve this problem for the infant and the child? How often have those of us who are actively engaged in tuberculosis work seen the depressing spectacle of a babe infected with tuberculosis from a mother with active, open tuberculosis disease, the mother meantime going to a rapid and certain death as a result of the drain her child is upon her vital forces and because of her inability to receive proper care and treatment. So let us establish at our existing sanatoria maternity departments properly equipped and in charge of competent obstetricians, in large centers of population establish special maternity sanatoria or open air pavilions at existing maternity hospitals to the end that pregnant women approaching term or those in whom it has been decided to let the pregnancy proceed can be cared for under ideal conditions for a pulmonary invalid until they come into labor, can be delivered by a most careful technic toward the conservation of her strength and the new born babe immediately removed from the tuberculous mother and fed by a known non-tuberculous wet nurse or by artificial feeding. Meantime the mother is returned to the sanatorium and receives proper care in an environment most conducive to her ultimate restoration to health. How often I have heard this statement from anxious husbands, "Doctor, I am sure my wife would be better if she could be relieved of the care of the baby and were here under treatment, but we have no where to send the baby." Under the regime I have suggested the baby will be protected from infection and the mother given an opportunity to regain her health.

However, pregnancy being one of the most serious accidents that could befall a tuberculous woman, we should always consider prompt and complete removal of the products of conception when it does occur and we should further put aside some of our antiquated ideas and so amend our laws that reputable physicians may be permitted to give tuberculous women advice as to how to prevent conception. But this is away from the question in point.

It has long been the custom of midwives to remove mucous from the mouth of the new born babe by mouth to mouth aspiration and then to establish respiration by blowing into the baby's nostril and so it is quite possible that many an infant has received a tuberculous infection with its first breath. Reich reports an instance of a town in which the obstetric practice was about equally divided between two midwives. Within 14 months there occurred no less than 10 deaths from tuberculous meningitis in the practice of one of these midwives who was afterwards found to have open tuberculosis and died from the disease. In the practice of the other, a ferfectly healthy woman, no cases occurred, although she treated the newly born infants in exactly the same manner. We must insist, therefore, that midwives, obstetric nurses, nurse girls and other girls and attendants of our infants and children be free from tuberculosis and laws passed making it compulsory that those so engaged be regularly examined by competent physicians. This question of the midwife is no small problem for it has been shown by White that of 15,050 children born in "Greater Pittsburgh," 4,654 were delivered by midwives and on this basis there would be approximately 750,000 babies in the U. S. in the hands of midwives the first few days of their lives.

Systematic Von Pirquet tests should be made on children particularly those known to have been exposed to possible infection, during the early years of their lives, each child to be tested every six months or a year, tests to be supplemented by physical examinations.

Open tuberculosis occurs less frequently in children than in adults, but closed tuberculosis is much more common, sometimes indicated merely by anemia, malnutrition and debility and called the "pretubercular stage." For the majority of such children improvement of the home conditions, open air schools with opportunities for rest and additional nourishment is often sufficient. It is very easy for us of the sanatoria to prescribe "improvement of home conditions," but this is often a task beset by many obstacles and right here I desire to express my appreciation of the work along these lines now being done by our tuberculous visiting nurses and others working along sociologic lines. For those in whose homes open tuberculosis is known to exist and who show signs of the "pretubercular stage" or those whose anemia and debility is more marked, preventoria should be established (and are in some sections) permitting a continuous open air life in the country, a proper ratio between rest, play and study maintained and proper nourishment assured.

Open air schools should be a part of these preventoria and of our sanatoria, for the pretuberculous child or the child with early tuberculosis should not be denied the privilege of an education but he should not be forced to obtain this education at the risk of his health or his life. Children in whose homes one or more cases of open tuberculosis exist should, in most instances, be placed in these preventoria during the period of greatest susceptibility.

Thus they will be protected from infection and brought to maturity healthy adults able to produce their share in the "business of life," rather than as possible helpless invalids to be objects of charity.

This provision for children has been woefully neglected by our private institutions. I note with pleasure the announcement of the opening of "a department for weak and anemic children" by one of the private institutions in the southwest. This is a step in the right direction and should be a stimulus to others to establish similar departments at their institutions.

The relation of the home, the school and the community to the welfare of the child could each be the subject for a paper more lengthy than it is my desire this one shall be. Therefore I shall consider these subjects as briefly as possible.

With regard to the home we are all agreed that a healthful home is essential for the welfare not only of the child but everyone in it. First, with regard to the parents it is a rational inference from what has already been stated that if they desire to bear healthy children the parents must also be healthy. Hence we should not only advise against the marriage of tuberculous persons, but laws should be passed prohibiting such marriages. With regard to the house itself it should be well constructed, designed to admit a maximum of sunlight and fresh air. There is a very true old German proverb which says, "Where the sun never enters, the doctor surely will." This is particularly true in the consideration of tuberculosis. Dampness must be avoided in the house; there must be no overcrowding, particularly of sleeping quarters, at least 500 cubic feet of air space should be provided for each person.

Contrary to the popular idea night air is not harmful and while proper ventilation is always important, it is particularly so at night and every home should have its sleeping porch. Houses should be built separate and be not more than two stories in height. In these days of rapid and convenient transportation there is no excuse for people crowding together like a lot of Indians in a pueblo and the apartment house, particularly the "latest" type equipped with "kitchennette," "in-a-door" beds, etc., so that one room is made to serve the purpose of three, is a pernicious invention and should not only be strongly advised against as a home, particularly for children, but laws should be enacted and enforced prohibiting the erection of such abominable structures. Tuberculosis surveys have shown that the more rooms a house has the fewer were the cases of tuberculosis therein.

Dust and germs go hand in hand. Therefore the home must be kept free of dust. Old fashioned carpets, deeply carved furniture and heavy draperies should be replaced by polished floors, small rugs, easily removed for cleaning, the smooth or mission furniture and light washable draperies, if draperies are necessary at all. Cleaning should be done by the vacuum system. Rooms should never be over-heated in winter as they predispose to colds, the most healthful temperature being between 65 and 70 degrees. Everything about the house and the premises should be kept absolutely clean and sanitary at all times.

The child's food must be proper in quality and quantity and properly cooked. The child must be properly and regularly bathed, properly clothed, their exercise and rest carefully supervised. Each child, even the smallest baby, should have its own bed and should sleep out of doors.

The part the public school can play in the prevention of tuberculosis is of such importance I can but briefly consider a few of the points. We must see to it that the school buildings are of modern construction, equipped with modern plumbing, vacuum cleaning systems and other sanitary appliances, that it is so located as to admit a large amount of sunlight and fresh air at all times, and constructed with adequate window space for this purpose. I have seen school rooms with shades drawn to exclude the wee bit of sunlight that might come in and where it had been so long since the windows were open, if ever, one could open them only by the aid of burglar's tools. To prevent such conditions we must educate our teachers in the facts about tuberculosis and its prevention. The school grounds should be hard surfaced, well drained, and free from vegetation.

There should be a sufficient number of open air schools, adequate and competent medical inspection and provision for medical and surgical aid as indicated, there should be instruction in public health matters by lectures and demonstrations, social workers should investigate home conditions and instruct parents in hygiene and sanitation; food served the children at school should be subject to inspection and regulation to insure its quality and that it is proper for children at such times.

With man in primitive life families are large. Civilization and "culture" seem to contravene this law and the higher we go in civilization the fewer are the children. Therefore it seems it is to the so-called lower grades of society we must look for the maintenance of our white population and so we must educate these people to the end that they can beget healthy children and keep them so. The community should enact eugenic marriage laws and insist on their enforcement; mothers should be instructed in child hygiene, milk stations, infant hospitals and dispensaries established, funds provided for public health work, especially anti-tuberculosis work, adequate hospital and sanatorium facilities provided, the food and milk supply should be subject to careful inspection, parks and playgrounds provided for the children, laws enacted and rigidly enforced prohibiting child labor, dental dispensaries and infirmaries established where not only the children's teeth are cared for, but children and parents instructed in the importance of daily care of the teeth and of the role carious teeth play in infection. Dental inspection should be a part of the medical inspection of schools, public lectures on tuberculosis and other health topics should be arranged for and a sufficient number of trained visiting tuberculosis nurses employed to give aid to all in need of it.

Funds must be provided and a careful tuberculosis survey of the community made, location of cases charted on map by means of pins. Laws enacted making it compulsory that physicians report all cases of tuberculosis to the health department, to report cases returned from sanitaria or sent in from other states. Laws passed providing health insurance for all workers earning $100 per month or less.

By these means only can we protect our children from tuberculosis and other infections and conserve our childhood, our manhood and womanhood of tomorrow, for as ex-President Roosevelt has expressed it, "the only way to permanently conserve the manhood and womanhood of the nation is to conserve the childhood."

SONG SERMON

LOVE'S HARVEST HOME

Dr. G. Henri Bogart, Shelbyville, Ills.

Outside, black night, sleet sheets and crusted snows;
Tree trunks groan moaning, heart rent with grim throes
Of Arctic cold;
Bare branches threshing, crashing; buffet blows
Of bitter gales, that scream,
That howl "The year is dead," with fiendish glee.
Wee buds hold safe their charge, Spring greenery,
Safe in their grasp.
Inside, the fire place backlog crackles, glows;
Shoots, thru the chimney, sparks whose seried rows
Of living gold
Drive back the Storm Fiend's blasts, the while it throws
Swift waves of warmth, that stream
Across to fill the room. Gleaming, the blaze
Soft whispers promise sure of Summer days
With joys a-gasp.
Beside the hearth sit two whose silence knows
Love's eloquence too deep for words or woes.
Both warm hearts hold
Pictures of June time's Perfect Night, when rose
And violet wove dream,
A dream that dared to smile at storms—come true,
Their Harvester reaps love—their Autumn due—
Their hands a-clasp. —Medical Herald.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

The Harvard Infantile Paralysis Commission and Its Work in Massachusetts.—Robert W. Lovett (Boston Medical and Surgical Journal, Jasuary 11, 1917) presents the principles which should govern the modern treatment in the aftercare of paralyzed children. Infantile paralysis causes a motor impairment which in many cases limits normal activity and in others, causes serious and lasting disability. The critical time is not in the first two or three months after the attack, but in the subsequent months up to the end of the second year, during which period the question of ultimate function is determined in most cases. Certain cases are affected so lightly that they will recover no matter what treatment is pursued, others are so severely paralyzed that no treatmest is of much avail, but in the majority treatment at this time has great effect on the final amount of restoration of power. Neglect or ineffectual treatment during this time means unnecessarily crippling and disability to so large a number of children as to be an economic blunder.

The essentials of modern treatment in this stage are: First, an accurate diagnosis, which can be made only by a careful examination of every available muscle or muscle group in both arms, both legs, back, neck, and abdomen. Second, the aim of treatment should be the development of affected muscles to their highest ultimate efficiency. The Vermont figures show that partial paralysis is nine times as common as total, so the affection is not so often hopeless loss of power as a muscular weakening. Third, the use of braces is conservative and protective rather than therapeutic, and the brace treatment of this stage does not exist any more than does a crutch treatment of fracture of the leg. Braces must be used in many cases to enable patients to go about, to prevent muscular stretching, and point loosening, and to avoid deformity, but they constrict the muscles, they prevent normal use of the limb, and they are heavy. They should be worn during the first year only for walking, and removed when the small amount of walking which is safe at this time has been done. Fourth, fatigue is detrimental, easily induced, and delays muscular recovery. The power of weak muscles may be permanently destroyed by overuse, and unprotected overuse may result in muscular stretching and deformity. The overdose of massage and therapeutic exercise may induce harmful degrees of fatigue. Fifth, massage is useful in proper doses in preserving muscular tone, promoting circulation, and preventing muscular atrophy, but its overuse is dangerous. Sixth, electricity given with mild currents does no harm and perhaps good, but it is not a powerful remedy. It has done much harm by being used over long periods of time, often none too carefully, while no other treatment was pursued. Seventh, muscle development by muscle training is the most important part of the modern treatment. Loosely given it is harmful, because a child will inevitably use strong rather than weak muscles in a loosely formulated movement, and the person prescribing such exercises must have sufficient knowledge of functional anatomy to formulate exercises calling only on the weak muscles. This knowledge is not as a rule possessed by the ordinary masseuse. The chief obstacle to the general use of this method is the scarcity of persons sufficiently trained to prescribe proper exercises, and the formation of such exercises by persons not trained to give them effectively.—New York Med. Jour.

Therapeutic Valne of Parental Milk Injections.—Sigismund v.

Dziembowski (Medizinische Klinik, November 5, 1916) states that he has given intramuscular injections of milk, in doses of five mils, to more than one hundred patients. The injections were made into the gluteal muscles and the milk was heated for ten minutes in a boiling water bath before injection. The injections were followed regularly by chills and an elevation of temperature lasting up to twelve hours; weakness, depression, headache, and palpitation were common. Serious results were never observed and no abscesses were produced. From a therapeutic point of view good results were secured in cases of septic infection with purulent wounds, lymphangitis and general sepsis; in cases with furuncles, carbuncles, and phlegmonous lesions; severe erysipelas, fistulas, and cold abscesses in bones, joints, and lymph glands. In the majority of such cases three or four injections at intervals of two to three days usually sufficed. Through the effects of the injections upon the hematopoietic system they proved of value in hastening the consolidation and healing of fractures. By virtue of their effects upon the blood platelets the injections also proved valuable as means of controlling various forms of bleeding.—New York Med. Jour.

Etiology and Pathology of Splenic Anemia.—Cristina reports details of 12 cases in which he investigated the relation of syphilis and tuberculosis. He believes that syphilis is the predominant factor in the pathology of infantile splenic anemia, acting either directly (in most cases) or indirectly as cause of congenital dystrophy. Tuberculosis is met with in a fair proportion of cases associated with syphilis. It contributes to the irritation of the hemopoietic organs. In a limited number of cases it alone may cause splenic anemia. The pathogenic mechanism is not quite clear as yet. It is probable that there occurs a condition of chronic intoxication of the tissues concerned in the hemopoietic organs.

Hess and Fish have made a study of infantile scurvy, with special reference to the blood, the blood-vessels and the diet. The main effort of the authors concerns the blood in scurvy. As is well known, scurvy is considered a hemorrhagic disease by some authors. A summary of the results of the investigation follows. The blood plasma of scorbutic patients showed a slight diminution in clotting power. This defect did not seem, however, to be the result of an insufficiency of calcium. The antithrombin was not increased. Small amounts of blood were also obtained by puncture of the finger. Examination of this blood revealed a normal number of blood platelets. In other respects the picture was that of a simple secondary anemia, except that the hemoglobin was diminished out of proportion to the red cells. A marked regeneration of these cells during convalescence, leading to a polycythemia, was also noticed.

These various departures from the normal are insufficient to account for the hemorrhages associated with the disease. It was found by experiment that the blood-vessels of scorbutics gave way under a pressure (of a blood-pressure-band) which the vessel walls of normal infants would withstand. While the authors do not claim that the test is specific for scurvy, it is a method of demonstrating weakness of vessel walls.

As a symptom of scurvy in its early incipiency, the authors call attention to the presence of petechial hemorrhages of the skin and mucous membranes in many cases.—Int. State Med. Jour.

Treatment of Diphtheria Bacillus Carriers.—M. Labbe and G. Canat (Bulletins et memoires de la Societe medicale des Hopitaux de Paris, July 13, 1916) state that while the ordinary antiseptic irrigations of the nose and throat, antiseptic ointments in the nasal fossae, and inhalations of iodine and guaiacol undoubtedly hasten the disappearance of the bacilli after diphtheria, their effect is often very slow, over three months being required for complete riddance. Twenty-nine patients were treated daily with two copious irrigations of the throat with a three per cent mixture of Labarraque's solution in water; introduction of a ten per cent resorcinol ointment into the nasal fossae morning and evening, and, in some instances, application of one in thirty iodine-glycerine to the throat. In twenty-four of these cases the bacilli disappeared in from fifteen to forty-eight days, one still showed bacilli on the seventy-fifth day when dismissed, and four on the ninetieth day. The average period of persistence was thus over forty days. In another series comprising thirty-five cases, a serum prepared by Louis Martin was substituted for the antiseptics. The powdered dry serum was blown into both nostrils four times daily by means of a powder blower with rubber tubing and glass tip. At first the measure was applied only after complete recovery from the diphtheritic sore throat; later, in the first few days of the disease, as soon as the patient's general condition permitted. In this series, disappearance of the bacilli occurred in from nine to sixty days, except in one case, in which it occurred after ninety-five days. The average was twenty-four days, showing a marked improvement over the antiseptic method. In several subjects treated for some time with antiseptics without results, the serum caused the bacilli to disappear in three to six days. In some others, disappearance of the bacilli after an initial treatment was followed by return upon cessation of the serum and disappearance upon resumption of the serum. This is evidence of a specific action by the serum, such intermission not having been noted under the antiseptic treatment.

Bad Teeth and Their Effects on Efficiency.—Carl E. Smith (Journal A. M. A., January 13, 1917) presents some striking figures as the result of 30,000 mouth examinations, made on 17,000 Americans and 13,000 foreigners. Only four per cent of the whole number had clean, healthy mouths, nine per cent were without cavities, and ninety-six per cent required some form of dental service. In the total number of cases about 60,000 cavities were found, 40,000 teeth had been extracted, and 18,000 extractions were necessary. The presence of a cavity in a tooth is a source, in his experience, both of inefficiency and of actual monetary loss to a laboring man, for an aching tooth impairs his working capacity and may cause him to be absent from his work on several occasions. If neglected it will certainly lead to the formation of an abscess or to the involvement of other teeth and to the impairment of digestion through interference with proper mastication. It is a conservative estimate to state that each diseased tooth will cost the man two dollars, through waste of time and cost of repair. The trouble should not be attacked by examination of adults and restoration of their mouth to a normal state, but rather it should be attacked from a preventive standpoint. This prevention should not be delayed until the time of routine school examination, but should antedate it to the extent of beginning in infancy with the cutting of the first tooth. In New York City eighty per cent of the failures of promotion of children in the public school could be laid to defective teeth. The vast importance, from an economic aspect, of the proper prophylactic and therapeutic care of the teeth is emphasized by the figures just cited.—N. Y. Med. Jour.

The Anemias of Infancy and Childhood.—Discussing the pathogenesis of melena neonatorum, Lovegren says that in all probability the main cause of this disease is to be found in disturbance of function of the blood organs. To support this theory, the author cites the anatomopathologic changes found by him in the blood, and reports the results of his clinical observations. Ballard, on the other hand, thinks that gastro-intestinal hemorrhages in the newly born may be divided, as to causation, into the infectious and mechanical. The mechanical almost always result from disturbances of circulation, combined with difficult respiration, causing a sudden hypotension, especially in the abdominal organs. There is a reflux toward the umbilical vein, which explains the frequency of hemorrhage there. If the ligature is strong, this wave is thrown back upon the abdominal organs, and produces intensive passive congestion.

As a result of severe infections there is a grave change in the blood formula of the newly born, with failure of the blood to coagulate. Mechanical hemorrhages occur early and isolated, and the prognosis is good. Infectious hemorrhages appear late, are multiple, treatment is of no avail, and the prognosis is always grave.

Lespinasse says that the causes of the condition are syphilis, infection, hypoplasia of the coagulating elements of the blood and asphyxia. The pathologic findings are usually negative, except for the bleeding, although in a few cases the lesions of syphilis are found or there may be a positive blood culture. The onset in the general run of cases is from the second to the fifth day. Contrary to Balard, Lespinasse holds that the earlier the onset, the graver the prognosis. In luetic cases, the onset may be delayed to the seventh or even the ninth day.

Stamm records 5 cases, 4 of whom were males. In 4, birth was normal; one was a forceps case. The melena began on the first, second, third (2 cases) and fourth days respectively. Hematemesis occurred in only one case. The forceps case died on the third day after birth, following an enormous intestinal hemorrhage on the second day. The other four cases recovered. The melena lasted two to three days. The autopsy of the fatal case showed anemia of all the organs, subpleural and subdural ecchymoses, and an ulcer 0.5 cm. long in the mucosa, 1 cm. below the pylorus. So far as treatment is concerned, all of Stamm's cases were treated with gelatine by mouth, in rectal injections, and subcutaneously. Recently much attention has been given to the treatment of melena, by means of fresh, normal serum, either human or horse. Early in January, 1915, Hymanson reported, before the New York Academy of Medicine, 4 cases of melena treated by horse serum. He referred to the favorable reports concerning the use of gelatine and calcium, though it is well known that there is no lack of calcium in melena. He also referred to remarkable cures effected by transfusion. Serum is easily obtained and very effective. Fresh animal serum, just as human serum, contains all the ferments of the blood; it acts by its nutritive and bactericidal power, and it also favors coagulation.—Interstate Med. Jour.

Production of an Antipoliomyelitic Serum.—John W. Nuzum (Jour. A. M. A., January 6, 1917) asserts that by employing the polymorphous organism which is constantly isolated from the spinal fluid of human cases of poliomyelitis he succeeded in immunizing sheep, lambs, and rabbits. The serum of the immunized sheep produced complete agglutination of the organism in a dilution of one to 5,000 and complete complement fixation in one to 200. The injection of this immune serum, along with doses of the living polymorphous organisms, into the peritoneal cavity of the white mouse gave rise to rapid exudation of polymorphonuclear and a few mononuclear lucocytes. At the end of an hour most of the bacteria were found within the leucocytes, the few extracellular ones being clumped and greatly swollen. The serum proved moderately effective in protecting young rabbits against infection with the organism. It also seemed to exert some degree of protection in monkeys. In one human case of poliomyelitis the serum has already given suggestively favorable results.—New York Med. Jour.

Infantile Paralysis Aftercare Clinics.—With the completion of the first series of infantile paralysis aftercare clinics, Acting Commissioner Linsly R. Williams, of the State Department of Health, has issued a statement showing that out of 2,887 patients reported to the department prior to October 1, 1917, 1,891 had been examined by the department surgeons, up to January 20, 1917. Of the 996 patients otherwise not accounted for, the greater number either have recovered completely or are under competent orthopedic care.

When the clinical work was begun, 3,688 patients had been reported. As the disease is one which the law requires to be reported, some data regarding each case was on file with the Department of

Health. This data was checked over and a total of 801 deaths was discovered which had occurred either from poliomyelitis or from some other disease following the attack of poliomyelitis. The clinics were started on October 17, 1916, at White Plains. Since that time seventy-two clinics have been held throughout the State and on Long Island, with an average attendance at each clinic of twenty-seven patients. In each instance a complete physical examination has been made of the patient and a record chart filled out showing the extent and nature of the paralysis.

The department is undertaking a series of subsequent clinics, which will be held in approximately the same cities as where first given, in order to provide a comprehensive and complete follow up system of examination. It is expected that upward of two months will be required for the second series of clinics. Examination of the patients is under the direction of Dr. Robert W. Lovett, who is assisted by Dr. Armitage Whitman, Dr. H. J. Cook, and Dr. J. H. Hodgen. In each instance the attending physician is asked to attend the clinic and consult the department surgeons.—N. Y. Med. Jour.

Pyloric Stenosis in Infants.—W. E. Gallie and L. B. Robertson (Canadian Medical Association Journal, January, 1917) state that with the establishment of diagnosis the rational indication for treatment is the relief of the obstruction, and that its nature depends entirely on the completeness of the closure of the pyloric outlet. If the patient is rapidly losing ground with vomiting of all food, absolute constipation, and suppression of urine, nothing but immediate operation can save him. If the symptoms are not so severe it is wise to study more accurately the degree of obstruction, and to try to relieve any pyloric spasm by gastric lavage. A measured quantity of breast milk may be fed to the patient and after the lapse of the time ordinarily required for the emptying of the stomach, the contents of the latter are aspirated and measured. In mild cases the amount retained in the stomach is small, and the prospect for relief through regular gastric lavage is good. But if the retention shows a daily increase with exaggeration of the symptoms, recourse must be had to immediate surgical intervention. They employ the Webber-Rammstedt method. The abdomen is opened by a small incision through the right rectus above the umbilicus. The tumor is discovered and delivered through the abdominal wall; its appearance, thickness, and density noted. By squeezing on the air in the stomach the degree of stenosis can be demonstrated. Along the upper border of the white tumor is a space about an eighth of an inch wide that is practically bloodless, and an incision is made along this area for the full length of the swelling down to the mucous membrane, the external surface of which is exposed throughout its whole length. The muscle is so hard that little retraction takes place, so it may be necessary to press apart the margins of the wound until the mucous membrane is exposed for a width of an eighth of an inch or more. The relief of the stenosis can be demonstrated by squeezing air through the pylorus from the stomach, or by passing a stomach tube into the duodenum. If any small vessels have been cut they must be tied, but there is practically never any bleeding. The viscera are then returned and the abdomen closed. The postoperative treatment is of the utmost importance. Hypodermoclysis immediately after the operation of from 100 to 200 c. c. of normal saline and four per cent glucose solution. This may be repeated during the next few days. Stimulation in the form of the hypodermic injection of adrenalin in five minim doses. Measures to keep up the temperature of the patient to normal should be employed, such as the use of hot water bottles and a special coat made of cotton sometimes used for premature babies. Until the effects of the anesthetic have passed off the child's head is lowered, after which the position is changed to the semi-upright, to facilitate the emptying of the stomach, and the eructation of gas. As soon as the effects of the anesthetic have passed off, usually an hour after the operation, a few drams of water are given, and an hour later a mixture of three drams of the mother's milk and a dram of water. This is repeated at regular three hour intervals. If possible breast milk should be provided, and the normal nursing of the child interrupted no longer than a week or ten days. Careful feeding is absolutely imperative, as digestive upsets are very apt to be fatal. In conclusion the writers admit that many of the cases, in which the hypertrophy of the muscle is slight and the obstruction due mostly to spasm, can be relieved by medical treatment, but such treatment should not be persisted in if prompt improvement does not appear. The patient must not be weakened by starvation until he is no longer a safe subject for an abdominal operation.—N. Y. Med. Jour.

Intestinal Parasites in Children.—Griel (Amer. Jour. Dis. Children, November 1915) gives the results of the examination of 665 children for intestinal parasites seen by him in Montgomery, Ala. He found that out of 665, 240 were harboring intestinal parasites or a percentage of 36.1 per cent. The varieties of parasites found were: Hookworms, 177 (62 females, 115 males, or 26.75 per cent); Hymenolepis nana, 38 (20 females, 18 males, or 5.75 per ctnt); Ascaris lumbricoides, 27 (13 females, 14 males, or 4.06 per cent); Oxyurius vermicularis, 5 (3 females, 2 males, or 0.75 per cent); Trichocephalus dispar, 5 (2 females, 3 males, or 0.75 per cent); mixed infections, 2 or more parasites, 12 (6 females, 6 males, or 1.8 per cent). It is not surprising that hookworm should be found the most common, but the large percentages of Hymenolepis nana, and Ascaris lumbricoides and the small number of Oxyuria vermicularis was somewhat surprising, as the latter has been considered quite common, while the hymenolepis were considered comparatively rare. The author believes that every county and municipality in the South should provide a man for special work along these lines and that children should not be permitted to attend public or private schools until after such examination, and the results prove to be negative.—Amer. Jour. Med. Sci.

Thymus Disease in Children.—H. B. Sheffield (Archives of Diagnosis, October, 1916) believes that genuine hypoplasia or hyperplasia of the thymus is due either to a primary congenital anomaly of this organ or develops later secondarily to changes in the thyroid or other lymphatic gland. In the cases attributed to lung and heart disease, pertussis, rubeola, protracted malnutrition, etc., the manifestations are only transient in character. The syndrones arising from thymic hypoplasia or hyperplasia are not as hard to recognize as was formerly thought. Hypoplasia, by inducing a reciprocal diminution in the thyroid secretion, produces arrest of growth, fraility of the bones, general debility, and lowered mental capacity, as exemplified in infantilism, particularly the Brissaud and Lorrain types. In thymic hyperplasia, the signs differ both according to the degree of enlargement and the functional activity of the thymus. Thymic hypertrophy may not be associated with increased function of the gland, which may, instead, be functionally incapacitated. Even where thymus secretion is excessive the symptoms caused vary greatly. Through a corresponding increased activity of the thyroid the symptoms may be confined to those of hyperthryoidism, viz., tachycardia, insomnia, altered disposition, abnormal perspiration, often slight exophthalmos, and possibly struma. In other thymic hyperplasia cases, examination reveals nothing but a few signs of rachitis or scrofulosis, in spite of which death may inexplicably occur from mild causes such as a serum injection, narcosis, or a minor operation (status lymphaticus). No definite signs characterize this condition either during life or at necropsy. In another group of cases of thymic hyperplasia percussion reveals marked dullness over the upper portion of the sternum, particularly to the left as low as the second rib and often also to the back between the scapulae. In addition, there are swollen lymph glands in the lower lateral region of the neck, which may sometimes be seen to continue deeply down between the clavicle and the side of the sternum. In long standing hypertrophy, secondary manifestations, such as dilatation of veins of the neck, dislocation of the heart, and lungs, and arching and distention of the thorax, may be detected. The thymus occasionally becomes palpable as an arched elastic swelling in the midline above the incisura sterni. Thymus enlargement is distinctly discernible with the Roentgen rays. Encroachment on the thyroid, vessels and nerves, trachae, and bronchi cause signs special to each. As a rule, the symptomatology is essentially that of cardiac asthma (asthma thymicum).—N. Y. Med. Jour.

Factors in the Incidence and Fatality of Measles.—J. G. Wilson (Arch. Pediat., 1916, xxxiii, 261,) from a study of statistics, shows that the mortality from measles is less than was considered correct some years ago. In New York City, in 1913, the mortality rate was 2.15 per 100, and in 1914 the rate for 28 States and Territories was 1.73 per cent, so that at present the case mortality rate of measles throughout the United States is less than 2 per cent. This, however, represents the low-water mark of measles mortality, as indicated by the mortality statistics compiled by a large insurance company two years ago, which showed a much higher mortality rate than has prevailed since the compilation was made. The mortality rate in measles is almost uniformly higher in institutions than in private practice and runs from 13 per cent to 30 per cent in large institutions generally. The Contagious Disease Hospital at Ellis Island showed a mortality from measles of less than 10 per cent before the war, and for the last three months only 8.5 per cent. It is evident, therefore, that the disease has no fixed mortality rate, due probably to some as yet undetermined factor. A regular, periodical recurrence of measles epidemics has been noted in many cities, the time interval being about two years in New York City. The theory of the successive susceptible crops of individuals will not explain the periodicity of epidemics which is shown to vary in different places. Only one factor seems to bear a causal relation, and that is over-crowding. Suppurative otitis media, bronchopneumonia, and cross-infection are noted as the most important complications. Data are taken from the hospital at Ellis Island, and cover 2,000 cases of measles. During a period of three years measles was four times as frequent as all the other contagious diseases combined. The influence of season on the development of bronchopneumonia seems small. Generally speaking every recovery from measles and bronchopneumonia is balanced by a death from measles with some other complication.—Am. Jour. Med. Sciences.

The Wasserman Reaction in Mental Deficiency in Children.—Alfred Gordon (Arch, Pediat., 1916, xxxiii, 273) in a study of 78 cases presenting mental defects of varying degrees, makes the following points as regards hereditary syphilis: Even in the absence of all external evidences in child and parents, every case of mental abnormality in children should be investigated from the stand-point of hereditary syphilis. When hereditary syphilis causes extensive deformities or actual malformations of the central nervous system or other organs therapeutic endeavors are baseless and in vain. But when there is only feeble-mindedness of various degrees, and when this is associated with epilepsy, tremors or choreiform movements, or frequent and persistent headaches or where there are neurotic phenomena such as outbreaks of anger, of violence or tendency to vicious habits, then encouraging results may be obtained from methods based on the newer serologic investigations. In the series of 78 cases comprising imbeciles, idiots and feeble-minded with epilepsy, petit mal, headaches and those without functional or organic disorders the Wasserman test showed that 50 per cent presented a positive reaction. While syphilis causes permanently defective offspring it also causes mental deficiency which is amenable to improvement. The detection of such recoverable cases is of paramount value. A negative Wassermann result should be followed by repeated tests at intervals. A positive result should be followed by vigorous and prolonged treatment by antisyphilitic remedies. Children up to the age of five were given mercurials and iodids. From that age on the treatment commenced with neosalvarsan, then continued with mercury and the iodids. The intraspinal method of salvarsanized serum was used exclusively on children of fifteen and sixteen years and supplemented by mercury and iodids. Mercury was given exclusively by inunction. The cases with organic changes were unresponsive. The feeble-minded showed decided improvement, in some, epileptic attacks diminished or ceased, those with petit mal especially showed improvement and the mentality in all these functional conditions showed striking improvement. The most striking improvement was in the feeble-minded with no functional disturbance.—Amer Jour. Med. Science.

The Question of Sterilizing Milk.—One of the greatest of public health problems is how to ensure a pure or rather comparatively pure supply of milk. Pasteurization, it is true, has partially solved it, and when scientifically and properly performed it is remarkably effective.

As has been pointed out by Dr. Charles Hastings, Medical Officer of Health for Toronto, the ideal mode of pasteurizing milk is to have it done in the final containers. This method is pursued in some cities and towns in this country on a somewhat limited scale, and in the Toronto Hospital for Sick Children. In the aforesaid hospital certified milk is bought and it is then pasteurized in the bottles in which it is delivered to the baby. Obviously this process removes much possible risk of infection.

When milk is pasteurized in bulk, as is generally the case in commercial pasteurization, there is no sure guarantee against contamination. The arguments against a good deal of the commercial pasteurization which is being practiced have been so frequently gone over in our editorial columns that it would be tiresome to repeat them. One or two points are nevertheless worthy of recapitulation. An infant should always be breast fed whenever possible and mothers should never be taught that cow's milk, however pure and however skillfully modified, will nourish the baby as well as human milk. Therefore, even milk pasteurized in accordance with the most scientific principles is at its best only an alternative for human milk.

Some years ago Budde, of Copenhagen, introduced a process of sterilizing milk by means of hydrogen peroxide. There is no space here to enter into the details of the process. The principle is that the catalase enzyme of the milk split the hydrogen peroxide into oxygen and water, the nascent oxygen acting as a sterilizing agent. It seems that milk was sterilized efficiently by the process, but, owing chiefily to the fact that it was somewhat expensive, the method was never put to a practical test on a large scale.

Dr. Clifford G. Grulee read before a meeting of the American Therapeutic Society, held at Detroit, June 9, 1917, a paper on oxygenated milk with was published in the New York Medical Journal, December 2, 1916. The process of oxygenating milk described in this paper is in its essential details the same as that of Budde. As Grulee points out, it is a preserved milk, but it is a preserved milk without preservatives, because at the end of half an hour's treatment only a trace of the hydrogen peroxide can be obtained.—N. Y. Med. Jour.

BOOK REVIEWS

Diseases of Children.—By A. Dingwall-Fordyce, M.D., M.B., Ch. B., F.R.C.P., Lecturer on Diseases of Children, School of Medicine, Royal College, Edinburgh; Extra Physician, Royal Hospital for Sick Children, Edinburgh. Crown 8 vo., Cloth, containing 32 full-page plates (8 of them in color) and 84 illustrations in the text. Price 10s 6 net (By Post, 11s 0d). A. & G. Black, Ltd., London, Eng. The Macmillan Co., 64-66 Fifth Ave., New York City.

The author in this small volume presents in compact form a systematic treatise on "Diseases of Children." The text is clearly written, full of dogma, and well illustrated. It abounds in practical directions for which the inexperienced will be grateful; at the same time justice is done to the morbid anatomy and bacteriology of the diseases with which the author deals. It is clear that the author has had great experience in the diseases of children.

Hitherto, it would seem that system has been woefully lacking in pediatric training in England, and incomplete training has prejudiced the subject in the eyes of students, academic authorities, and to some extent, the laity. But the hour for the systematic study and care of child-life has struck, and alike for prevention and for cure of disease a higher standard of knowledge is required of the physician.

The manual is one to be strongly commended to all desirous of a reliable and compact record of up-to-date knowledge regarding the pathology, symptomatology and treatment of diseases in infancy and childhood.

The Practice of Obstetrics.—Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornel University Medical College; Visiting Obstetrician the Emergency Hospital of Bellevue Hospital, New York City; Surgeon to the Manhattan Maternity and Dispensary; Consulting Obstetrician to the New York Maternity Hospital. Royal octavo, 1019 pages, with 1316 illustrations, including five colored plates and 34 figures in colors. Fifth edition revised 1907. Price, cloth, $6.00 net; sheep or half morocco, $7.00. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia.

When we were reviewing a copy of the first edition, we said: "If one has ever had the extreme good fortnue to eat a Chinese dinner—a real Chinese dinner, not a luncheon—then one has some sort of an idea of some of the sensations of enjoyment and surprise experienced in receiving this volume of Obstetrics by my old teacher, Dr. Edgar. Chinese dinners are famous for their surprises and this work is full of anticipation, which is outstripped by realization, giving it a sort of friendly feeling.

There is an air of confidence in Dr. Edgar's mthod of handling subjects, which, to say the least, is grateful and comfortable in these days of high falutive rhetorical strain.

In takiny up a new treatise on obstetrics for review, one can scarcely avoid the mental interrogatory, "Of what need is there of another?" It must be confessed, too, that this is a pertinent inquiry, since a number of excellent works on obstetrics have appeared within the last few years, for it would seem upon examining them as if the last word had been said already for the present at least, on this branch of medical science. But even an imperfect inspection of Edgar's book is sufficient to convince that it contains features of the practice of obstetrics presented in new form, and in such a manner as to attract the attention as well as fix in the mind the material offered.

The classification adopted in the first edition has been adhered to in the subsequent ones, as from the experience of other teachers and that of the author it has been found generally satisfactory. It will be observed on close examination that the following subjects hape been brought up to date: The Development of the Ovum, Embryo, Fetus, Fetal Membranes, and Fetal Structure. Chori-Epithelioma Malignum. The Treatment of Placenta Previa. The Toxemia of Pregnancy. Etiology of Eclampsia. Ectopic Gestation. The Treatment of Pelvic Deformity. Morbidity of the Puerperium. Indications for the Induction of Abortion. The Forceps. Caesarian Section. Vaginal Caesarian Secretion. Poro Caesarian Section. Complete and Incomplete Abdominal Hysterectomy. The subjects of Painless Labor, Twilight Sleep and Artificial Feeding of Infants have received special attention.

The diagnosis of pregnancy, a subsection of the second part, is a fine piece of instruction and betrays the thoughtful and experienced teacher. Edgar summons all the known methods and arranges them in the order of sequence, and in differential diagnosis, it is difficult to see how one could be better armed to meet what is sometimes the most difficult problem to solve. Again, in the examination of pregnancy, the author has presented much valuable material in the clearest fashion possible, and which will impress the novice with the importance most admirably, the use of rubber gloves being insisted upon as a means to prevent infection.

A full and precise exposition is given of the physiology and clinical course of labor. This description is not excelled in any treatise, and in some respects, we think it has never been equalled.

The chapter on the conduct of normal labor is replete and useful, practical details. Here, as everywhere, the strictest aseptis is enjoined. Yet it is pointed out that no method of hand cleansing can be depended upon for sterile results. Hence the importance of refrain from needless manipulation.

The author rightly insists on a definite routine in examining. Mistakes in diagnosis are due no less frequently to carelessness than to ignorance. Skill depends in a great measure on painstaking habits.

The reviewer cannot mention all the good points of this work, as space in this department will not permit. All unnecessary division of chapters has been omitted and italicizing has been practically left out. To replace this, a system of paragraphing by means of display type in four series has been uniformly adopted throughout the work.

The 1316 illustrations of this work comprise a special feature of the volume. Many of them are new, collected during twenty-five years of clinical work, and the greater portion of those borrowed have been withdrawn.

From a literary standpoint the excellence of the text is beyond criticism. The author's intimate knowledge of his subject, his exceptional training in the tributary sciences, his store of well-digested clinical data, and the judicial manner in which he handles disputed questions combine to place him in the front rank of modern obstetricians.

Better Babies, A Guide to the Practical Care of the Mother and Young Child—By Samuel A. Visanska, Ph.G., M.D., Formerly Professor of the Theory and Practice of Pharmacy, Southern College of Pharmacy; Former Chairman Milk Committee, Atlanta Chamber of Commerce. Cloth, illustrated, 244 pages, $1.50. Foote and Davis, Publishers, Atlanta, Ga.

Quite a little of the matter in this handy little book on "Better Babies" has already appeared in Pediatrics, particularly "The New Way of Putting on a Diaper," "The New Naval Band," etc. The work is written primarily for the mother, giving her in detail instructions for the care, nursing, dressing, and feeding the baby. Fifteen full page plates graphically show many new methods and novel devices for caring for the child in health and sickness.

That the dignity of medical science should condescend to a discussion of the correct application of the diaper would seem strange, were it not for the ursupation of this function by knowing aunts and wiser nurses, who have really retarded the evolution of this important perquisite of the nursery. The time has apparently arrived for a radical dress reform in this most elementary of all garments. From time immemorial infants have protested loudly and eloquently against the clumsy method of ensheathing a goodly portion of their anatomy, but until now their cry, although heard only too well, has been woefully misunderstood.

A Journey Around the World, By An Oculist—By Flavel B. Tiffany, A.M., M.D., Kansas City, Mo. A notable feature of Dr. Tiffany's Trip Around the World was his visits with many noted Oculists, and especially that to Col. Henry Smith, for a quarter of a century an Oculist in India, and the description of his work, which has given him an international reputation. 400 pages, 100 illustrations, 5 x 7 inches, attractive bindings, $2.00 net. Franklin Hudson Publishing Co., 22nd and Gillham Road, Kansas City, Mo.

This book, as the title indicates, is a journey around the world by an oculist, and embraces his impressions of what he saw, not only in the various things that would interest the layman, but the professional man, especially the ophthalmologist. He visited all of the important eye clinics of the world and discussed many of the important subjects pertaining to ophthalmology with the greatest authorities on this subject, even visiting Colonel Henry Smith, the great authority on the intra-capsular extraction of cataract, at Amritsar, India. This trip embraces visits to the eye clinics of London, Parish, Munich, Vienna, Budapest, Athens, Cairo, Palestine, Bombay, Calcutta, Colombo, Singapore, China, Japan, the Philippines, etc.

The book contains many new points on the subject of Ophthalmology and is invaluable to the ophthalmologist. It discusses many subjects pertaining to the age, and especially the most important operations that are now being made by the leading surgeons of the world.

The New Method in Diabetes.—The Practical Treatment of Diabetes as Conducted at the Battle Creek Sanitarium, Adapted to Home Use. Based upon the Treatment of More than Eleven Hundred Cases. By J. H. Kellogg, M.D., LL.D., Chief Medical Director of the Battle Creek Sanitarium. Leather. Price $2.50 net. Pp. 177. Battle Creek; Good Health Publishing Company, 1917.

Dr. Kellogg considers first the fundamental questions of body physiology and pathologic chemistry in this disease. Under "New Method in Diabetes," he briefly points out the restrictions to which the diabetic must be prepared to limit himself. Under "Modern Methods of Examination," he then takes up the diagnostic procedures involved in the determination of the severity of the patient's condition. He introduces here a chart known as the "Metabolism Graphic,' a specimen of which is included with the book. The use of this chart permits the physician to have before him in graphic outline an analysis of the patient's condition. This analysis includes an estimation of such factors as the urinary sugar, the percentage of increase of blood sugar, the carbohydrate balance, the degree of acidosis, the energy balance, the water balance, the respiratory quotient, the food intake, the patient's weight, etc., and each of these points is discussed separately in the chapter mentioned. The discussion of feeding of diabetics includes a description of the inauguration of the fast, the method of feeding with elimination of calories and food values, and also a series of standard bills of fare. Other chapters concern complications of the disease, the care of a case in the home, directions for testing the urine.

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EDITORIAL

BACTERIOLOGY AND CLINICAL ASPECTS OF SCARLET FEVER

Concerning certain obscure points of scarlet fever it is somewhat extraordinary that so little is known concerning the bacteriology of this disease. Our knowledge, indeed, of the bacteriology of this malady is very limited. Even from the clinical aspect many points are doubtful. This ignorance is the more pardonable when the fact is taken into consideration that scarlet fever as an entity has been recognized since the time of Sydenham, 1655.

Studies and investigations in connection with scarlet fever have been carried on for several years at the Research Laboratory of the New York Department of Health and Dr. Anna W. Williams has published some of the conclusions reached.

In the first place, it is pointed out, that the state of the urine is not definitely known but it is the chief source of infection. By many the skin has been considered the most dangerous means of conveying the disease to others, but there are other sources of infection, which cannot be ruled out. The chief of these are the exudates from throat, nose and ear. In the second place it is not known how long the urine may remain infective when separated from the patient. In the third place the exact period of incubation is not known. In the fourth place only one of the many symptoms described is supposed to be pathognomonic. The rash is not strictly characteristic, and desquamation may occur after many exanthema and similar throat symptoms appear in ordinary tonsilitis. The one symptom said to be pathognomonic is the enlargement of the papilla and the tip and sides of the tongue. In the fourth place, very little has been done on the minute pathology of scarlet fever.

The only constant change found is a hyperplasia of lymphatic tissue over the whole body. The only characteristic change reported is the appearance of the bodies described by Mallory in 1904. He found certain bodies which he believed to be protozoa and to have an etiological relationship to scarlet fever in four scarlet fever autopsies. However, he could not find these bodies in the skin of living cases and his reported findings have been corroborated to a very small extent up to the present time.

Research work in this direction has been carried on at the laboratory of the Department of Health, with the result that bodies have been found but no definite radiate or star shaped bodies as described by Mallory nor has evidence been found of their living organisms. Some investigators consider that streptococci are the important agents in the bacteriology of scarlet fever and there seems to be little doubt that the streptococcus is a potent factor in the secondary lesions and sequela of scarlet fever, and for this reason acute streptococcus serum has been recommended in the treatment. In New York City a few years ago under the direction of Dr. Wilson, Superintendent of the Contagious Diseases Hospital, streptococcus vaccine were tried on a certain number of glandular and joint cases with the idea of influencing favorably the cause of these secondary lesions. The results were encouraging.

It is evident that the bacteriology of scarlet fever requires far more careful and extended observations ere any definite pronouncement can be made on the subject. Nevertheless, it does seem likely that the main question centers around the streptococci.

SLEEP FOR CHILDREN

Some remarkably interesting treaties have been recently published relating to the scientific phenomena of sleep. The authors of these works, while agreeing in the main with the efficacy of "sleep as nature's sweet restorer," still hold the opinion that too much sleep is decidedly harmful, and that the majority of people indulge in the habit to a greater extent than is good for their health. Their views, as expressed on the subject in regard to young children, are both instructive and novel, and in brief are somewhat as follows: That even infants at the breast are allowed too much sleep; that they need not only time to sleep, but time to awake if their intellect is to be awakened. The tendency to sleep shown by children and the uneducated is explained on the ground "that their psychic world is so poor that it is almost impossible for them to take any interest in their own thoughts and ideas. It is argued that even during the first four or six weeks of life there ought to be two waking hours during the day, and as the baby grows the duration of wakeful period should gradually increase. All methods of putting children to sleep artificially by means of monotonous sensations are strongly censured, including the crooning of lullabies and the rocking of babies in cradles or simply in the arms. Rocking the child in the arms or cradle is said to produce sleep partly because consciousness is fatigued by a series of monotonous sensations and partly because at the same time artificial anemia of the brain is provoked. Finally the approximate period of sleep necessary for children at different ages is given. Between the ages of one and two years there should be from six to eight waking hours; between two and three years, seven to nine waking hours; between three and your years, eight to ten waking hours; between four and six years, nine to eleven waking hours; between six and nine years, twelve to fourteen waking hours; between nine and thirteen years, fourteen to sixteen waking hours." There is much common sense in the foregoing remarks, but there is also a tendency to rather unduly press the point as to the harmfulness of oversleeping, particularly in the case of very young infants. Rocking a child in the cradle to any great extent is doubtless harmful, but it is difficult to understand in what manner the "crooning of lullabies" can effect the health of a baby. It is also no easy matter to fix the amount of sleep that a person—child or adult—should take by any hard and fast rule; a large degree of latitude must be allowed in this respect, as it is an absolute fact that individuals of different temperaments and constitutions require varying periods of sleep.

PEDIATRICS

ORIGINAL ARTICLES

THE RIGHTS OF THE UNBORN CHILD*

BY BARTON COOKE HIRST, M.D.
Philadelphia

The right of the unborn child to life is undenied and indisputable, but as a matter of fact this right is more frequently denied during intrauterine life than at any other period of man's existence for the folloing reasons: In the first place there is the inadvertent and often unavoidable loss of life from spontaneous miscarriage. Few people realize the proportion of miscarriages to births of living children. In an analysis of over 7,000 names in my private case books it appeared that for every four children delivered at term, there was one miscarriage before the viability of the fetus. These statistics agree with those of others. Some of these miscarriages might have been prevented. They are due to imprudence and ignorance on the part of the mother. The larger proportion, however, were unavoidable from the many accidents and diseases incidental to intrauterine life.

It is in the first group of cases that much will be accomplished by the present movement in favor of parental care; a comparatively new name for an old procedure. In justice to the specialists engaged in obstetrics it is only fair to state that it has always been our practice to keep an observation on pregnant patients and to give them the advice which at present is included in the parental care of the unborn child—advice as to diet; prudence about catching cold; the manner of bathing; management of the bowels; physical effort; the avoidance of jolts and jars; a routine estimate of blood pressure; routine urinary examinations; pelvic measurements; abdominal palpitation; an estimate of the size of the infant before birth, and care of the breasts, have been a part of the routine management of all our pregnant patients for years, and there is no doubt that attention to these matters has prevented parental mortality; but there remain many cases in which, in spite of the most prudent and careful management, pregnancy comes to an untimely end.

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*Read before the Philadelphia County Medical Society, Jan. 10, 1917.—N. Y. Med. Jour., Feb. 10, 1917.

The recent agitation and publicity in regard to parental care, however, is certain to accomplish much good in directing the minds of physicians in general to the importance of careful attention to pregnant patients, and in awakening in the public mind a realization of the importance of this movement.

The greatest good that has been accomplished by a dissemination of knowledge in regard to parental care by the clinics established for this purpose in many of the large cities of this country and the greatest good to be accomplished in the future is among the poorer and more ignorant classes of the population who do not as a rule receive the best medical attention. As a means of disseminating a wider knowledge and appreciation among the general public of the right of the unborn child to life this movement deserves unqualified approval and support.

As one of the means of diminishing the enormous waste of human life before it reaches the stage of independent existence, this movement should be welcomed by all intelligent and public spirited people. What it is intended to accomplish, however, should be clearly recognized. It is not the prevention of stillbirths or the improvement of the race, as much as the avoidance of a premature termination of pregancy that is sought.

The statistics collected in New York and Baltimore demonstrate that not too much is to be expected of parental care in the lessened percentage of stillbirths or of early infantile mortality, but something can unquestionably be accomplished in the prevention of unnecessary and avoidable miscarriages.

Another factor in parental mortality which is accountable in large measure for the denial of the right of the unborn child to life is the appalling frequency of criminal abortion, evidences of which we physicians see about us every day. It is one of the most interesting and one of the most serious sociological problems which confront us at the present time. The question which must be faced today is whether it is better to prevent conception or to destroy the life which has been already begun. However much we may deplore the fact, it would seem that a choice of two evils is inevitable. People in general the world over are determined to regulate the birth rate by one means or the other. Economic conditions, the love of luxury; selfishness; disinclination to bear pain; suffering and inconvenience; the unmistakable loosening of moral control in the younger generation which has become much mort apparent in the last ten years in this country than it ever was before, with the consequent illegitimate impregnations and their criminal termination—all contribute to a limitation of the fertility of women.

How this condition of affairs is best to be met and if possible improved is one of the most puzzling problems presented to the sociologist of the present day. The burden of rearing, clothing and educating children is not likely to be less onerous in the future than it is at present with the high and increasing cost of all the necessities of life. It is not surprising, therefore, that the struggling family, barely able to maintain itself in comfort and decency, is unwilling to increase its burdens to a point where they become well nigh intolerable.

One of the unmistakable consequences of the emancipation of women is a relaxation of moral sense and control in regard to sexual matters, with the result that illicit intercourse among the young girls of the working classes and those who are independently employed is more common, I think, than it was a generation ago. A necessary consequence is an increase of illegitimate impregnation or a more widespread practice of the prevention of conception.

It is impossible to gather reliable statistics of criminal and self-induced abortion, but no doctor can remain ignorant of the increasing frequency of this practice. The knowledge among women of the means at their disposal for terminating pregnancy is being utilized to an enormous extent. What direction improvement in this matter may take in the future it is impossible to foretell. My own conviction is that a woman becomes more accustomed to her emancipated condition today, and in the future she may acquire greater self control after an experience of the vicissitudes of life in an independent and unprotected position, which is certain, I think, to bring out in her qualities which her female ancestors lacked. Experience will teach her in the course of time that continence and chastity are after all the better course in life, until she unites her fortunes permanently with the man of her choice, with whom a family can be reared in decency and self-respect. Meanwhile the church, the law, and medicine can hasten the acquisition of this mental attitude on the part of our young girls and women.

We come next to the most interesting phase of this discussion: The deliberate destruction of embryonal life in a therapeutic abortion. Fortunately our discussion is limited to the destruction of fetal life before viability, for we are no longer driven to the distressing necessity of destroying the life of a viable child in order to secure its extraction from the mother's womb or through her pelvis. The improvement in operative obstetrics has made it unnecessary to consider any form of embryotomy in the delivery of the living infant; but we cannot dismiss the necessity in rare instances of destroying the life of the embryo in order to preserve that of the mother. I can understand perfectly the objection to this procedure on the part of high-minded and conscientious men who bear in mind that precept of the Decalogue, "Thou shalt not kill."

But the physician who is confronted in his practice with the problems of life and death, with disease and its treatment, must necessarily, it seems to me, accept the view that occasionally the sacrifice of embryonal life is not only justifiable, but a duty incumbent upon the conscientious physician. I have read with the greatest interest the arguments pro and con in that dspute between Professor Treub, of Amsterdam, and the Roman Catholic Bishop of Haarlem. There is much to be said on both sides of the question, but the judgment of the physician acquainted with the facts of medicine and of disease, it seems to me, should outweigh that of the churchman necessarily without actual experience in medical condition.

I was called to see a young woman in her first pregnancy suffering from pernicoius vomiting. I felt confident that the only thing to save her life was a therapeutic abortion, to which the husband consented; but later that night he recalled his consent because meanwhile he had consulted his parish priest, who forbade the operation. I asked to be relieved from the responsibility in the case, but the husband begged me so pathetically to remain in charge and do what I could that I foolishly consented. Everything possible was done; consultations were called; three trained nurses were in attendance, but at the end of ten days' treatment it was perfectly obvious that the patient was going to die. I announced this fact to the husband, when he begged me then to induce abortion. I told him I was afraid it was too late, but undertook the operation. It proved too late and the patient died a couple of days afterward.

In another case I saw a patient, in consultation with two other physicians. She had a very grave gestational toxemia, with involvement of the heart and kidneys. It was plain to all the physicians in attendance that the termination of her pregnancy was necessary to save her life, but we were forbidden to perform the operation of induction of labor prematurely before the viability of the child by the priests, who were always in conference with us when we physicians met in consultation. It was only when we were able to announce that the fetus was dead, as we could no longer hear its heart sounds, that we were permitted to terminate the woman's gestation, but interference here again came too late; the patient died a few months later from the progress of her kidney disease. I believe that had pregnancy been interrupted earlier the disease could have been arrested and the patient's life at least prolonged. Now what was gained in these two cases, even in the eyes of the church? Both patients were lost in each instance.

Fortunately with increased resources in therapeutics these cases in which the death of the mother is inevitable unless her pregnancy is terminated and in which the death of the mother involves that also of the fetus; fortunately, I say, these cases will in the future be rarer than they have been in the past, but they will still occur; and the problem of losing both patients or saving one will be from time to time presented to every phycian engaged in the practice of obstetrics.

While these extreme cases are becoming rarer and, I hope, will become more so, there are others in increasing numbers on the borderline in which it is a serious question what should be done. Take, for example, a woman who has had a child or two and then acquired phthisis. She is sent to a sanatorium, where her disease is arrested, at least; sometimes apparently cured. She returns home and almost immediately becomes pregnant and shortly afterward there is a return of all her tuberculous symptoms, advancing so rapidly with her pregnancy that it is doubtful whether she will survive until delivery at maturity, and it is practically certain that her life will be extinguished shortly afterward. Whereas, had she been allowed a greater length of time she might have eventually completely recovered.

Another illustration is the case of a woman five months pregnant with a systolic blood pressure of 240, with organic disease of the heart and with arteriosclerosis. It is unlikely that such a woman will go on to a date in pregnancy in which the child is viable; is it not practically certain that she and the fetus will both lose their lives before the period of viability in the latter? Would it be justifiable in such a case to destroy the living fetus a few weeks before its inevitable death in order to prolong the life of the mother?

What should be done in a case of this kind? A woman who has had six or seven children, in the last two or three pregnancies has had eclampsia each time and has lost the infants. She comes under a physicians' notice when she is between two and three months pregnant; she is told that she should not be in that condition; she replies that she has had that advice from several physicians and has informed her husband, who will pay no attention to the physician's warning and insists on frequent marital relations without precautions to prevent conception. Even in these early weeks of pregnancy the woman is found to have a blood pressure of over 200, with evidences of heart and kidney disease. Would not the best treatment in such a case be the induction of abortion and the excision of the patient's tubes through the vaginal vault? She would unquestionably lose the embryo in her womb long before maturity, and very likely would herself be a victim to the indifference or brutality of her husband if she were allowed to conceive again. These are interesting questions in medical casuistry to which I do not pretend to give an authoritative answer; but I do contend that the conscientious physician already begun. However much we may deplore the fact,, it should be untrammeled in his decision; that with a full sense of his responsibility to God and man and a consciousness of the duty he owes his profession he should be allowed to follow the instinct to save life, implanted more and more deeply in the medical mind as his experience grows. Neither law nor the church, always in arrears in medical knowledge, should oppose an obstacle to medicine's lifesaving instinct. No one has an unqualified right to life; the murderer's life is a forfeit to the law; the soldier's life is often a forfeit to the State. Neither law nor the church condemn this violation of the Sixth

Commandment. How much more merciful is medicine; how much less liable to condemnation if it extinguishes a precarious life already doomed to extinction and in compensation saves a life still capable of preservation! Has not the woman herself a right to life? Has she not the right to demand the sacrifice of her embryo by the common law justification of self-defence or even by the old Biblical law that "Whoso sheddeth man's blood by man shall his blood be shed"? For if the presence of an embryo in the womb insures a woman's destruction, in what other light can it be regarded than as the potential murderer of its host, the mother?

The decision of this momentous question must be left to the physician, who occupies the unique position in civilized communities of arbiter of life and death without judge or jury. I am proud to think that it can safely be left to him. Assailed with, and resisting temptations greater than confront the average human being; daily giving his services for the benefit of his fellow creatures; constantly striving to do the right thing by the sick entrusted to his care; a member of a guild directly descended from that ancient triumvirate of king, priest and physician once combined in a single man, I know of no body of men with a finer sense of noblesse oblige, with greater instinctive rectitude, or more undeviating honesty of purpose.

1821 Spruce Street

BIRTH CONTROL*

BY EDWARD C. PODVIN, M. D.,
New York
Adjunct Professor of Hygiene and Preventive Medicine, Fordham University Medical School

The present agitation of the subject of birth control, which is engaging the attention of the laity and to a certain extent the medical profession, although brought forth at this time by a group of notoriety seekers who would surround it with the glamour of the so called advanced ideas of a most progressive age, is in reality an old and often discredited practice which has appeared again and again.

The story of the decline and decay of any great nation has always interwoven with it this strong damning of national vices. A nation may wax strong on the industry of its people, its sons clean of mind and sturdy of body,. its daughters fruitful in their progeny and devoted to domesticity. Then comes the period of great wealth, luxury and so called refinement. In this age the vices subordinated in the previous one by stern necessity arise and prosper, most prominent and damaging being the pandering to the passions with a distaste for the responsibility of a family. To indulge the sexual appetite and avoid its consequences birth control is suggested. This marks the era of decay. Once given over to this practice, no nation has ever been known to follow other than the road to ruin. It was so with ancient Greece and Rome, where this vice prevailed until the strength of these great nations was destroyed.

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*New York Medical Journal.

In modern times this practice has prevailed to such an alarming extent in France that for years its death rate has exceeded the number of births. During the first six months of the year 1914 before the European War the number of births in France was 4,000 less than for the same period of the preceding year. At the same time the deaths increased 20,845. Thus the population of France during the first six months of 1914 decreased 24,816. For the past thirty years the French birth rate has steadily decreased, while the death rate has increased.

Our committee on birth control would like to turn this nation into another France. As intelligent students of history, realizing its devasting influence, it is our patriotic duty to oppose it. They wish to have repealed Section 1142 of the New York Penal Code, which makes the giving information leading to race suicide, a misdemeanor. If they succeed in having this law removed from the statute books, it is then their purpose to go about the dissemination of the so called formula for the prevention of conception. The methods which they suggest consist of douches, antiseptics, etc., and contain nothing new or novel.

Let us for a moment consider what this practice would mean to the individual, aside from its affect on the nation. Man is so constituted that there are two sides to his nature; an animal or physical side and an intellectual or spiritual part. His physical being must ever be subordinate to and dominated by the intellectual. His tendency is ever toward selfperfection, the development and refinement of his entirety being under the guidance of his intellect.

Among the natural appetites given to man are those of hunger, thirst, and the sexual instinct. Each has a definite and necessary purpose and each must be under the control of the intellect. The sexual instinct necessary for procreation differs in no way from the others in that its indulgence increases and intensifies it, while repression diminishes it. Therefore any practice which would tend toward the exercise of this function otherwise than in the way and for the purpose intended by nature, namely, procreation, would stimulate and strengthen passion and thus lower the moral calibre of the individual. On the other hand, all authorities agree that the control and subjection of the sexual function is not only desirable but beneficial, and that man can reach the highest state of development, both physical and mental, without their exercise.

Since the indulgence of the sexual instinct means the strengthening of this appetite, anything that would tend to make easy and encourage this indulgence would also tend to the lowering of man to the most degrading depths. The over-exercise of this function would bring about the development of all kinds of abnormalities and degeneracy in sex matters, as it is a well established fact that those who overindulge the sexual instinct eventually become perverts of one form or another.

Again, we are all aware that one of the greatest protecting agencies of female virtue is the fear of conception. Remove this fear and you have taken away from those of not overstrong mental faculties one of the most important natural safeguards of chastity. Also, any physician is aware that the methods advocated by the disciples of birth control are far from perfect, that in order to be even tolerably efficacious they must be intelligently carried out. Now, the very class of women for whom they are intended are the ones least likely by nature and environment to observe the prescribed technic. Thus we would have the terrible results of the false security promised by those prescriptions, and the inevitable accompaniment—the abortionist or suicide.

No more unpatriotic principle could be advocated than that which it is entitled and which it may sorely need for its development or defense.

It would directly violate and frustrate the primary object of matrimony, which is the begetting of children, and what more natural, if we do away with the purpose of matrimony, than that we do away with matrimony itself? Free love is the natural sequence of this plan. It means the lowering of man below the level of the beast, who is guided only by instinct. Man is guided by reason, yet in the practice of birth control he would overthrow reason and give himself up entirely to the gratification of his passions.

That it is a violation of God's law as expressed in Genesis, "Increase and multiply," does not seriously concern the advocates of this practice.

The first and most appealing argument advanced in behalf of birth control is poverty; that children are brought into the world by people who are unable to give them the means of livelihood, and that their presence here is undesirable.

Now aside from the religious aspect, that we as believers in a Creator hold that He alone is responsible for each individual and that we are not to decide so important a question for Him, in the physical sense alone, can this statement be proved? No class of men are more conversant with the intimate affairs of the family than physicians; now let me ask how many instances can we recall in all our experience of actual suffering being due alone to the size of the family? That we have seen suffering and want is undeniable, but in how many instances was that due alone and entirely to the excessive number of children? Was there no intemperance, was there no lack of industry on the part of the parents, or were there not industrial or financial accidents due to man's carelessness or cupidity that contributed to or caused the suffering?

What do we mean by happiness and suffering, especially in this regard? I ask anyone who has an only child, or who has ever had to deal either professionally or otherwise with an only child, what is their idea of the relative happiness of that child reared with every want anticipated, and the child of the tenement who subsists on the plainest fare, but who is able to divide not only his crusts but his joys and sorrows with brothers and sisters. Happiness, as we all know, is not a matter of environment, but is a mental state, dependent entirely on the individual, and influenced least of all by surroundings. Again, if we were to review the history of those who have been of greatest service to humanity, or have really contributed toward the world's progress, I am sure we would find that from the ranks of those born to poverty and hardships have come a vast majority of our great men and women of all ages. How are we to decide in advance which child in years to come will be the better cared for? We are none of us gifted with the powers of foresight —not even the apostles of this wonderful creed—and the parents who decide that because today they are in a comfortable position financially and otherwise, they will proceed to have a child, may be the very ones who in a short time, by some unexpected change in fortune, are reduced to penury, while their neighbors, whose large and poorly clad progeny, at the time of their decision the familiar gossip of the neighborhood, have by a similar change been swept on the crest of a wave of prosperity to affluence or high state.

The other argument advanced is that due to the severity of labor woman is reduced to a state of invalidism, that she often gives up her health, happiness, and even life itself, through parturition. That an occasional death occurs during childbirth is patent. I am not familiar with the actual mortality statistics of pregnancy, if there are such figures. Someone with a genius for statistics has recently compiled the death rate from German measles and chickenpox, and I am sure they are on a par with pregnancy. To say that a woman should avoid pregnancy because of the rare fatalities would be equivalent to stating that no one should travel on railroads because an occasional passenger is killed. And as regards the injurious effects on the health and wellbeing, just exactly opposite is the case, as every physician knows.

We need but to review our practical experiences to realize that the class of patients that are always in our waiting rooms, with every variety of complaint, real or imaginary, are the unmarried women of advancing years or the married ones with one or no children. What more constant and sorrowful picture is there than this class of women—prematurely gray and enfeebled, soured in disposition, disappointed in ambition, disillusioned, confirmed pessimists, gossips and busybodies, their life a burden to themselves and an annoyance to everyone with whom they come in contact? They furnish the vast majority of the subjects operated on for floating kidney, chronic appendicitis, and any other chronic and obscure conditions which can be credited with their complaints and will justify an exploratory operation. They fill and make possible the rest cures and sanitariums and are almost the sole support of the charlatan.

On the other hand, consider what is our usual experience with the mothers of large families. In the early years of their married life we see them about once every eighteen months for confinement. We see them again quite frequently when we go to the home to visit the children while they are small. If we think that the mothers should come to our office for some special purpose or examination, we usually are obliged to appeal to the husband and make him stay home from work to bring them. Then they drop out of our sight until we may meet them again at the climacteric period when they come to us accompanied by daughters that look like their sisters or sons that seem like brothers. The finest physical specimens of womanhood that I have in my acquaintance at the age of forty to fifty or over are the mothers of large families. No Jackson's membrane operation in this class of patients, no tampon or no electrical treatments. Health and happiness shine in their countenance—happiness engendered by the hopes and plans and endeavors in behalf of others—their children. Sacrifice, the great force, has refined their character, and surrounded by their progeny they are truly the queens of the earth, before whom every true and honorable man has ever bowed in allegiance and respect—noble motherhood.

That there is a justification for the control of offspring in certain rare instances nobody will dispute. The husband of a tuberculous or otherwise enfeebled wife is not alone justified but is in duty bound to exercise this control. There is no objection to control for economic reasons if husband and wife are agreed in the matter and are able to safeguard the passions. To accomplish this it is not necessary to stoop to a practice that is degrading and dangerous, it is not necessary to pander to the passions or disobey Nature's laws. There is a birth control that is absolutely reliable, no whispered formula is necessary for its execution, it does not weaken man physically or morally, it violates neither the law of God or man—selfcontrol.

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MEDICOEDUCATIONAL PROBLEMS IN THE TREATMENT OF ATYPICAL CHILDREN*

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In the new order of things the physician is beginning to realize more and more the importance of treating his patients rather than their diseases, and therefore in his preparation for the practice of medicine he is finding it necessary to study psychology as well as physiology, anatomy, and chemistry. It is found that the disease itself is not so important as the manner in which the patient reacts to the disease, and on the same principle the modern physician is giving more attention to the effects of remedies than to the remedies themselves.

All this is a natural consequence of a fuller realization of the fact that there is something which distinguishes the human organism from a mere laboratory receptacle or test tube, and this something is obviously the patient's mind or the personality. The time has come when the physician must be more than a mere doctor or prescriber of drugs, and it would be interesting to speculate upon the conditions which are responsible for the change, but it is the fact that it has been in a measure forced upon us by circumstances over which we have had little or no control. It is not greatly to our credit perhaps that we should feel called upon to make this confession.

The practice of medicine, like the practice of every other profession, must improve in character largely as ther result of opposing prinicples, and our methods of practice, like the methods of any other art, must change to meet the ever changing conditions of a progressive age.

The fact of a close relationship between mind and matter is now generally recognized, and we know that the physical organism of man is the basis of his physical development. We know that the brain is the seat of the mind and that intellectual development of certain cerebral structures, and vice versa, it being a poor rule that will not work both ways. We are becoming convinced that physical health is in some way related to, and dependent upon, psychical health, and that we always tend to be what we will or desire to be, for no other reason than that we always strive consciously or unconsciously to reach the height of our ambition. This is probably what Browning had in mind when he said, "A man's reach should be beyond his grasp, or what's a heaven for?"

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*Address delivered at a joint meeting of the New York Academy of Medicine, the New York State Society, the New Jersey Pediatric Society, the Philadelphia Pediatric Society, and the New England Pediatric Society, Boston, Nov. 4, 1916.—N. Y. Med. Jour.

Moreover, modern thought leads us to the conviction that the prevention of disease is even more desirable than cure, and to no class of physicians should this belief appeal so strongly as to those who have the care of children. It is well known that the inefficiency of adult life is due largely to the mistakes of childhood, but it is not so well recognized that many of the actual diseases of later years may be traced to faulty habits acquired during infancy and adolescence. The physician is usually the first to receive and welcome the child into the world, and he should be the first therefore to outline and direct methods for its education and development, and thus enable it to avoid the mistakes which lead to inefficiency and disease.

Medicoeducational methods are applicable in a measure to all classes of patients, but they are especially indicated in the treatment of so called atypical children, and, as Oliver Wendell Holmes suggested, to be curative in every instance they should be instituted several generations before the birth of the child. Medicoeducational methods, therefore, have a twofold function, the prevention of disease and the cure of it.

The principle of eugenics has been advocated as a means of preventing disease, and but for the difficulties of establishing or enforcing the principle, it would doubtless be of great value. The chief obstacle to the successful practice of any medicoeducational methods, whether for the prevention or cure of disease, is the difficulty arising, first, in outlining a suitable course of procedure, and, second, in having the course properly carried out.

To meet these difficulties successfully the medicoeducationalist must be a specialist in the true sense of the term. He must be a medical man and an educational man; he must be at once a physician and a teacher; a physiologist and a psychologist; he must know his medicine well and he must know the workings of the human mind equally well. He must know, not only what should be done for the prevention and cure of certain abnormal conditions, but he must also know how to go about it and how to teach others. "To do" is not so easy as "to know what to do," and the great medicoeducational problem is to make men do the things that are good for them and leave undone the things that are not good for them.

Failure in the successful application of medicoeducattional methods of treatment may be due to the physician's own lack of belief in them. If we would convince another of the error of his ways, we must ourselves be keenly alive to the error, and when we have once really convinced our patient of his error, we have him in the true psychological condition for the adoption of means which make for its complete eradication. Physicians are constantly making the mistake of separating the mind from the body in their diagnosis and treatment, and this is especially true in the diseases of children. The mind of the child is always a product or function of the child's brain, and defective mentality always suggestsa defective action in some of the cerebral structures. This defective action does not necessarily indicate organic cerebral defects, but it may be due merely and wholly to a bad start in the growth and development of the brain tissues.

A study of child psychology teaches that of all the organs of the body the brain is the most susceptible to physical and functional development. The cerebral convolutions increase enormously in number, and the enveloping gray matter, which forms the so called cortex of the brain, undergoes a corresponding increase in its surface growth during what we call mental development. Moreover, the so called associational fibres of the brain, upon which its mental functions so largely depend, are merely rudimentary in early childhood, and attain their full functioning powers only after years of growth and development.

These anatomical and physiological facts must be taken into consideration in the application of medicoeducational methods. and we should keep in mind that the physical development of the child's central nervous system is largely the result of, and directly dependent upon, his early physical activities A striking difference between the mentally normal and abnormal child appears in the fact that the one develops automatically, while the other halts in his development, or actually, in some instances, loses ground or undergoes retrograde development. The physician's aim in the treatment of atypical children should be to assist them in both their physical and mental development and the phrase that best expresses this work is "psychophysical education."

The two important things to keep in mind in the psychophysical education of children are: 1. The correction of postular attitudes; and 2, the development of normal respiration, phonation and articulation. These two things have been said to constitute a cardinal principle in the treatment and prevention of disease, and at all events they should form the starting point of all medicoeducational systems of treatment Their application in the case of normal children is comparatively simple, but in subnormal or atypical children the problem is more difficult and more complex. These physical exercises have a psychical value far beyond that which is usually attributed to them, and when they can be made use of in training of atypical children they should not be neglected or supplanted by the usual methods of manual training.

Atypical or backward children should not be coddled, but encouraged, and, like plants of slow growth, in some instances they may be "forced." This may be done by supplying favorable conditions for growth and devedopment, and by directing their physical activities in the right channels. Comparative poor health is not always a contraindication, but often a decided indication for this forcing process. Many a nervous child immediately begins to improve physically as well as mentally when well directed pressure is brought to bear upon him in psychophysical education.

This is due to the fact that the child may have been wearing himself out nervously by his aimless and ill directed activities, and judicious training in such a crisis often results in a much needed rest to both mind and body. It is said of older people that it is not work that kills, but worry, and we are inclined to overlook the fact that this is equally true even of young children. The satisfaction of having performed constructive work in a successful manner is not confined to mature men and women, but may come very early in the lives of children, and it is not too much school work that impairs the health, but too little that is well adapted to individual needs.

Nervousness is the most characteristic state of the atypical child, and manifests itself in a thousand and one ways. In the majority of instances it is due to a neuropathic heredity, coupled with an unsuitable or unfortunate environment. Although the physician can do nothing directly to change the child's heredity, he may do much to make the environment more suitable and more favorable by at once instituting medicoeducational measures. These measures must be really medicoeducational, and only the physician can direct them because he alone knows whether the symptoms are of organic origin, or whether they are more or less functional and heretofore subject to psychical and emotional treatment.

So called hereditary tendencies are frequently aggravated and encouraged by faulty parental attitude, and these are usually the result of ignorance, selfishness, or it may be overanxiety with reference to the condition of the young offspring. In this way the mistakes of the parents may indeed be visited upon the children, even to the third and fourth generation. Atypical children are for the most part spoiled children, and they usually acquire nervous habits which, if allowed to continue long, can never be quite eradicated or supplanted.

The most difficult thing in the treatment of atypical children is to control and direct this parental influence and enlist its services in behalf of the child's welfare. In some instances the parents are hopeless and it becomes necessary to remove the child entirely from the home environmnt before satisfactory progress can be made. Mother love is undoubtedly a great factor in child development, but if wrongly directed it may be so misunderstood as to be subversive of all medicoeducational influences.

The bright mother of in many respects a bright boy consulted me in behalf of her child while this paper was being written, and I may add that the father of the boy was a successful practitioner of medicine, although now retired. The purpose of the consultation was to devise measures for the cure of the boy's stammering. He is ten years of age and fairly well developed both physically and mentally, and as is often the case, I found the stammering to be only one of several striking symptoms of a general nervous condition. The boy has occasional crying spells without any apparent reason. He is afraid to be alone in the dark, and at night he will not go unattended to bed.

In explanation of this condition I found that in early childhood he had a governess who was accustomed to recount to him all the terrible things that might happen if he did not "watch out," and he was frequently allowed to be present in the family circle during the recital of interesting and thrilling tales of adventure. As a result we have a boy who stammers in his speech, and who, in spite of an otherwise good mind, is unable to control adequately certain of his emotional and psychical faculties, and it will now be a difficult task for him to overcome these acquired tendencies.

In contrast with this little story let me tell another of another son of a physician, who was brought to me at the age of two and a half years on account of a tendency to stammering speech. I had a brief consultation with the father of the child and outlined a little course of treatment, which consisted purely of what I have called medicoeducational measures. After two weeks a second consultation was held and as a result of the father's well directed methods speech began to develop in a perfectly normal manner, and there is now no trace of stammering or other nervous affection after a period of about ten years.

Overanxiety and undue manifestations of solicitude as to the child's welfare on the part of the parents is a frequent cause of nervous fear in children, and I have recommended as a substitute a course of what someone has called "intentional neglect" in order to develop in the child greater independence of feeling and action. It takes courage for a mother completely to ignore the crying and pleading of her young hopeful, but she should understand that there are many occasions when this is the very best thing to do.

A case showing the disastrous results of too much coddling was that of a boy thirteen years of age, a Canadian by birth, who was a bad stammerer, and at the same time had acquired other curious nervous conditions. The mother requested me prior to his arrival to allow no one of pro-German proclivities to come in contact with him because it always aroused him to such a high pitch of excitement; in other respects also she herself insisted upon directing the manner if not the method of treatment. She was overanxious with reference to the slightest symptoms, and especially lest the boy should become too much fatigued, and I could not make her understand that by suggestion she was aggravating some of his most important and serious symptoms. Needless to say that in spite of all that we could do the boy continues to stammer and, what is of greater importance, he continues to be a psychophysical weakling, because, to use a well known expression, he is tied to his mother's apron strings, and the mother herself is guided by her heart rather than her head. In other words, her affections so dominate in the management of her son that whatever judgment she may have had originally is warped or completely held in abeyance.

These three cases illustrate very well how atypical psychophysical conditions may be acquired by children prior to the school age, owing to faulty environment and inadequate training, and the second case illustrates what may be done by way of prevention.

Summary and Conclusions.—Children are largely what we make them, and the factors which determine their psychophysical condition as well as their personality are heredity and environment.

Heredity is an important factor in the development of children, but environment is even more important because it is always subject to change and improvement, and in addition is probably even more responsible than heredity for putting the prefix, a, in the word atypical as it relates to children.

The most important feature of a child's environment is his education and training, and the most important neglected period in the life of anyone is that which comes prior to the so called school age.

Teachers believe that the failures of their pupils are due chiefly to faulty habits formed before their entrance into the schools and colleges.

The so called fixed habits are the early ones formed during the child's physical and mental development in the first years of his existence.

The Jesuits have a saying, "Give me the first seven years of a child's life and I care not who has the rest."

While the mind of the child has a physical basis, yet his mental activities determine to a great extent the character of this basis by regulating its development, and hence it is that the general physical condition of the child may be influenced for good or ill by the character of his mental and emotional activities.

Medicoeducational methods become real measures of prevention only when employed during infancy.

A mother once asked at what age should a child learn to be obedient, and the significant reply was, "if your child has not learned obedience now, he never will learn it."

Medicoeducational methods should aim, not to remake the child, but to make the "absolute best" of what has already been made.

Nervousness is the most characteristic malady of children, and its treatment should be, first, preventive and, second, remedial or curative.

Preventive treatment is applicable in the earliest infancy, and consists largely in an attempt to control the child's physical activities through careful direction of his psychical and emotional activities.

If the child is normal physically, this treatment should result in a development of normal psychical and emotional faculties, but if the child inherits physical abnormalities, such as cleft palate or other irregularities of structure, surgery and some form of medication may be indicated in addition to the psychophysical training.

Punishment should never be inflicted except perhaps at the very beginning and before the child is mentally susceptible to medicoeducational measures.

It is said that there are upward of 300,000 stammerers in the United States alone, and I am of the opinion that if this vast army of defectives had had the right kind of early training there would now be few if any stammerers to contend with, and what is true of stammering is true of similar and allied nervous diseases.

The remedial and curative treatment of atypical children is physicopsychical in character. It is an effort to improve their condition through their physical activities.

The personality of the child is modified and moulded by what someone has called the reflex influences of its own acts and expressions. "To make any act or gesture or mode of speech or motion habitual through deliberate repetition is to stimulate in the personality the appropriate moral quality or emotion of which such an act or gesture is the expression."

The Japanese have a theory that for one to be what one would like to be, it is only necessary for one persistently to act the part, and according to this principle if we would have a child become polite, for example, and good, we have but to persist in the teaching of the principles of politeness and goodness, and encourage the child to practice them.

Doing things with what Frankel has called "purposeful intent" is found to have a greater educational value than doing them carelessly or even in play.

The play instinct is an important factor in child development, but at the present time is the most overworked of all, both in the home and in the primary school.

What may be called the work instinct is equally important, and is now greatly neglected in the early training of children.

The difference between play and work should be clearly understood by the child, and the greater dignity of the latter should be impressed upon his mind at an early age.

The child should be taught to do things, not because they are easy, but because they are right, and the greater the difficulty of doing them, the greater the educational value.

Moreover, work and play should not be commingled, but should form two distinct factors in education.

Mr. Roosevelt gave good advice when he said: "When you play, play hard, and when you work, don't play at all."

Correct postural attitudes and good respiratory, phonatory and articulatory habits should have a conspicuous place in all medicoeducational methods, because of their esthetic value and because they tend to give greater selfrespect, selfreliance, and selfcontrol.

The training of speech is of special importance because of the close relationship between the so called mental faculties and the organs of phonation and articulation.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

A New Familial Infantile Form of Diffuse Brain-Sclerosis—K. Krabbee Brain (London) Vol. xxxix, Parts I-III, Archi. of Diagnosis, Oct., 1916.—The so-called diffuse sclerosis of the brain in children may be divided into at least three quite distinct types: (1) A syphilitic form; (2) Schilder's encephalitis periaxialis diffusa; (3) a familial infantile form of which 5 cases are discussed in the present paper; the literature probably contains one other case. This form shows the following characteristics: It is usually a familial disease; it sets in somewhat acutely in about the fifth month in a child who up to then has been quite healthy; it progresses on a chronic course, ending with death five to six months after the onset; universal rigidity of the musculature, violent tonic spasms, probably causing pain, and brought on by touching or noise form the characteristic symptoms. As a rule nystagmus is present, and in the later stage, atrophy of the optic nerve. Periodic elevations of the temperature occur without perceptible cause outside of the central nervous system. Finally extensive paresis and pronounced debility close the scene. The pathologico-anatomical findings are: a marked hardness of the white substance of the brain without alteration of its shape. Complete destruction of the white matter of the cerebellum and degeneration of the spinal nerve tracts are present. The affecton must be regarded as a purely degenerative and not as an inflammatory process.

Little's Disease.—Joseph S. Wall (Arch. Pediat., 1916, xxxiii, 812 Amr. Jol. Med. Sciences) brings out the various conceptions held by different authorities on this malady, showing quite a diversion of opinion as to what class of cases of spatic paraplegia should be designated as Little's disease. Spastic paralysis, because seen in infancy and childhood should not be classed as Little's disease solely for that reason. Wall states that Little's disease appears to represent cases of congenital spastic rigidity or paralysis having their origin before or during the act of birth from causes within the central nervous system, particularly the cerebum and that this excluded the whole group of spastic paraplegias occurring during infancy as well as those paralyses dependent upon peripheral lesions. The causatve factors are both prenatal and natal. Prematurity apparently is held to be the main general factor, whether the effects are due to undeveloped fibers in the pyramidal tracts of the brain or as the French writers believe, to syphilis either in the father or mother. However, prematurity in itself may ba questioned as orignating Little's disease since so many premature infants grow and develop into healthy beings. Next to prematurity, perhaps intimately associated with it among prenatal factors, should be placed syphilis The French school has brought many arguments to prove that syphilis is the most common cause of the disease. Natal causes include hemorrhages from trauma during labor. Basal hemorrhages are usually fatal while those of the cortex permit of life and the consequent degenerations shown in Little's disease. Asphyxia neonatorum has been noted in from one-third to one-half of many of the recorded cases. It would seem difficult, however, to differentiate between asphyxia as a cause of hemorrhage and asphyxia as a result and symptom of hemorrhage which has preceded the state of suspended animation. The pathological changes causing the paralyses and spasticities taken collectively show hemorrhage, meningeal and cortical, defect degeneration and inflammation. Primary destruction or non-development of the brain surface is largely responsible for the production of the syndrome of Little. Early symptomatology includes spasticity of the extremities and trunk, inability to support the head or retraction of the head, incoordination of the upper extremities, asymmetry of the face, difficulty in attracting the attention of the eyes, strabismus, "choking sounds" and laryngeal stridor. Later on lack of proper development and infantile growth become apparent and the symptom-complex depended upon the degree of cortical involvement.

The Neuropathic or Nervous Child.—E. B. Augell (New York State Jour. Med., 1917,xvii, 13) in a discussion of the nervous child quotes Dr. Francis Warner's description of the typical signs of the nervous child. Nervous children are apt to complain of headaches, are poor sleepers and hard to put to sleep, talk in their sleep and grind their teeth and are tired on arising. They are delicate without having any disease and are rarely attacked by illness. They are not strong, cannot walk far without tiring; some days they are too tired to do anything and must rest. Their appetite is capricious and they easily lose weight. They are generally well made in body, but may be tall and rather thin, with subnormal body weight. In nerve signs they give evidence of weakness and overspontaneity. Augell lays emphasis on the study of the physiognomy and muscle action in the observation of children and suggests a well tried out test employed by Dr. Warner. In asking a child to extend its arms in imitation of your own example, the arms should come out parallel, hands almost on a level, fingers when extended are curved slightly downward from the wrist with the thumbs closely applied to the hands, a position which denotes the balanced action of a normally acting brain. The nervous child, however, shows a different result. If tired, there is dropping of one arm below the other, the thumb drops away from the hand and in extreme cases the hands drop from the wrist. If the nervous system is in a tense, unbalanced condition the fingers are overextended with the knuckles inclined slightly backward marking overmuscular action. This sign was noted in 25 per cent. of the author's cases. Augell is inclined to regard nervousness in children as dependent on ill-balanced nervous control rather than exhausted nervous energy. The relation between muscular and brain activity is very direct and Augell impresses the value of trained muscular exercise in increasing the size of the motor convolutions of the brain as well as the depth of the cortex and in developing ready control and quick response in the mind. He cites military drill as exceptionally valuable in this respect and in developing self-control which is a vital factor in the treatment of the nervous child. Neurotic inheritance plays a more important part in childhood neurosis than in the adult type. In 80 cases of typically nervous children, 70 per cent. gave a history of neurotic inheritance. The arthritic diathesis is another important factor, about 30 per cent. giving a family history of arthritic trouble in the immediate ancestry. Among a list of physical conditions and abnormalities which cause nervousness Augell mentions bad oral hygiene, disorders of the digestive tract or faulty metabolism, especially a too high protein diet, and conditions due to bad ventilation in home and school.—Amer. Jour. Med. Sciences, March, 1917.

Alcohol and the Unborn Child.—Now that prohibition is gradually increasing the number of its adherents the conflict between the defenders of alcohol and its opponents is growing more bitter, and naturally both turn to medical testimony for support. Both, it may be added, get it, although since the experiments of Kraepelin there has been a decided tendency to give Demon Rum the worst of it. Especially has controversy raged about the effect which alcoholism in the parents may have upon the offspring. One of the chief contributors to our knowledge of this subject, Dr. J. W. Ballantyne, recently read a paper before the English Society for the Study of Inebriety, giving his own findings—they practically represent his whole life work—and quoting the experiments of Stockard and Papanicolaou upon alcoholized guinea-pigs. These experiments show that alcoholism in the parent does exert a baleful influence upon the germ cells, indivually and collectively as the embryo and the fetus. Ballantyne does not mince words when he says: "Alchol is a danger to antenatal life at every one of the stages of that existence and through each of the progenitors." This certainly does not place the responsibility anywhere but where it belongs, on the shoulders of the parents. It is also interesting in view of recent attempt to show that epilepsy, for example, is sometimes the result of impregnation at the time when both parents were alcoholized.—Medical Record, March 3, 1917.

Prophylaxis of Infection in Infant Wards.—Jour. A. M. A., Mar. 3, 1917—Barbier describes the methods in vogue at the Herold hospital at Paris to prevent contagion in the infant ward. The latest improvement is to have the nurses wear a veil like the veil worn in the operating room. This adds the finishing touch to the glass box system by preventing the carrying of infection in the hair from one box to another. The little caps worn by nurses are no protection in this line. He expatiates further on the importance of a well trained and experienced set of nurses. The constant necessity for having to break in new nurses for the care of the isolated infants is discouraging. Sterilized folded cloths under the infant's heads have done away with the infection of the head which used to be common. One nurse has charge of the food for all the infants, written directions being given for each. She collects the directions and prepares the food, and this is her entire work, in a room apart. Each wire basket is marked with the number of the bed, and the bottles are thus prepared at 11 a. m. for the twenty-four hours. Infants unable to take cow's milk have thriven on ass's milk, when breast feeding could not be obtained for them. Many of the children in advanced marasmus were thus restored to health in the course of several months. Among the 1,238 infants in the hospital, 1909 to 1913, the mortality was 35 per cent., and 29.5 per cent. of the 442 deaths were from typical tuberculosis, confirmed by necropsy.

He adds that of the 141 deaths among the 311 marasmic infants, 62 per cent. were from septicemia. Only 15.1 per cent. succumbed to the marasmus. These children were in the creche ward where two or more with or without the mothers were in each box. All the septicemia infants except about 30 per cent. were under 6 months. In many of them, but not all, hospital contagion was unmistakably responsible. Marasmic children have so little resisting power that their skin and mucous membranes are predisposed to infections of all kinds. Sometimes a series of such cases occurred in the creche. These experiences have convinced him of the absolute necessity of a separate cubicle for each infant. The infants already infected should be kept entirely separate from the others, and nurses attending the infected ones should never have anything to do with the other marasmic infants. Another feature of which he complains is that there is no provision made for taking convalescent infants and older children out of the hospital atmosphere at the earliest possible moment. He has to keep them on in the hospital. His experiences with measles, whooping cough and typhoid are related in detail. None of the forty-six cases of typhoid terminated fatally, and he ascribes this in large part to the avoidance of milk. No milk is given the typhoid children except in the form of yoghurt. Under this the intestinal symptoms are mild, the tongue moist, and the general symptoms attenuated.

Epidemic Vaginitis in Children.—B. K. Rachford (American Journal of the Medical Sciences, February, 1917) states that during the long experience he has had with this disease he has never known of a case in which it was contracted by adults, and that the manner of transmission is not by sexual contact. He has found that irrigating the infected parts once a day with two quarts of a normal saline solution followed by the injection of two or three ounces of a one per cent. solution of silver nitrate, is the best local treatment, and that the intractability of cases in hospital wards is largely due to reinfection. Although he considers such local treatment advisable, as it undoubtetdly shortens the course of the disease, he has been much impressed with the evils that may follow it when long continued. Not only were children found to be masturbating, but also imitating physicians by introducing instruments into the vaginas of younger girls, and serious social problems have developed in the treatment of these cases at their homes. He believes that vaginitis should be made a reportable disease.—N. Y. Med. Jour., Feb. 24, 1917.

Some Varieties of Congenital Heart Disease.—L. Findlay and W. B. M. Martin, Glasgow Med. Jour., Oct., 1916.—Two cases of congenital heart disease are described in this paper, Case (1) A case of congenital stenosis of the pulmonary tract with atresia of the orifice—septal defects and patent ductus arteriosus. In this case of a child of 3 months, the mother noted that when the child was 2 weeks old, its body was of a bluish tint. Since that age it had a cough and was subject to "peculiar turns," in which the cyanosis became very marked and the breathing stopped. Examination of the heart did not disclose any enlargement of the precordial dulness and the heart sounds were pure. The pulse was 140-150 a minute. Autopsy revealed a congenital stenosis of the pulmonary tract with atresia of the orifice, incomplete interventricular septum, patent ductus arteriosus and patent foramen ovale. The primary factor in this case is a defective development of the pulmonary tract. The septal defects are inevitable consequences of the pulmonary atresia. The fact that the pulmonary orifice was completely occluded accounts for the absence of any murmur indicative of pulmonary stenosis. (Case II.) Congenital stenosis of pulmonary tract, with septal defects. This child was two months old. It was under observation in the hospital on account of a stationary weight. It was cyanosed and presented great distension of the veins over the chest and abdomen. The pulse was small and could not be satisfactorily counted. The precordial dulness was slightly enlarged to the right and all over the heart could be heard a blowing systolic murmur, with its seat of maximum intensity at the base. The second sound at both pulmonary and aortic areas was loud and sharp. While under observation the intensity of the cyanosis varied and at times the murmur could not be heard. Postmortem revealed an example of the commonest type of congenital heart disease, i. e., the combination of pulmonary stenosis with patency of the inter-ventricular and inter-auricular septa.—Archives of Diagnosis, Oct., 1916.

Technic for Intravenous Injections in Infants.—A. Martin, Brit. Med. Jour., July 8, 1916. On account of the size of the superficial veins in young infants it is usually difficult to give intravenous injections or even to obtain blood for the Wasserman reaction. This difficulty may be overcome by puncturing the longitudinal sinus through the anterior fontanelle according to the procedure recently introduced by Helmholtz, of Chicago. This method is free from risk. The scalp over the anterior fontanelle is shaved and disinfected with iodin. The child lies in bed with the head raised on a pillow. The needle is held at an angle of about 50-60 degrees with the plane of the fontanelle and is inserted in the middle half way, between the anterior angle and the center of the fontanelle. Some little force is required to force the needle through the firm pericranium and it should not penetrate more than an eighth of an inch below the surface of the skin since the sinus lies immediately below the pericranium. If the needle is in the sinus, blood flows at once into the syringe. Should this not happen, the needle is too deep, but no harm has been done. A needle of size No. 20 with a short bevel masuring 2 mm. should be employed. —Archiv of Diagnosis, Oct., 1916.

Vaginitis in Infants.—A. F. Hess, Am. Jour. Dis. Child., Nov., 1916. Post-mortem examinations show that in the acute and subacute cases of vaginitis in infants, the cervix is most frequently involved and that the vagina generally shows no signs of inflammation. Cervicitis would therefore seem to be a more correct term in this condition than vaginitis. Where numerous pus cells without bacteria are found in smears made from the cervix, an inflammation may be assumed to be present, and in the overwhelming majority of instances the inciting factor will be found to be the gonococcus. Other microorganisms may, however, be the cause of the inflammatory process. It should be borne in mind that smears taken from new-born infants very frequently show pus cells, probably due to the invasion of the vagina by saprophytic bacteria. In the new-born infants, such a condition should not be considered pathologic.—Archives of Diagnosis, October, 1916.

Bacteriology of Feces in Diarrhea of Infants.—W. R. Logan, Lancet, Nov. 11, 1916. The flora of the feces of artificially fed infants differs from that of breast fed infants chiefly in a decrease of the acid tolerant group, an increase of the normal B. coli group, and in the appearance of members of the non-lactose-fermenting group, along with some increase of cocci. The flora of infants suffering from diarrhea shows similar and more marked changes, and the more severe the diarrhea, the more marked the changes. It is doubtful whether the overgrowth of non-lactose fermenting bacilli initiates the diarrhea or whether it is a secondary and aggravating factor.—Archives of Diagnosis, October, 1916.

The Epidemiology of Anterior Poliomyelitis Epidemica, 1916.—D. M. Lewis (Boston Medical and Surgical Journal, February 15, 1917) maintains that this disease was an integral part of a streptococcal grippe, which has been most protean in its manifestations. This conclusion is based on the following statements: 1. Typical abortive cases of poliomyelitis were the streptococcal grippe type of the spring; these were present in frequently the same family as then affected, but in individuals who were not affected at that time. Other individuals of the family gave the more recent history of malaria, sore throats, or bronchitis, and showed an eye strabismus, or a recent throat or muscle weakness. In some instances carriers in the family were demonstrable. 2. Typical cases of the disease as to onset, symptoms, and signs were classical pictures of influenza. Atypical and suspected cases were like the spring grippes save the more frequent irritatable pressure signs of fluid on the brain, pons, or cord, especially during a short period during and following the extreme humidity. 3. The convalescence of all abortive, mild, or suspected cases has been typically that of influenza or grippe. 4. Although he obtained but one spinal fluid in an abortive case that showed a fine diplostreptococcus, the blood picture of leucocytosis, and high polymorphonuclear. differential count are in accord with such an etiology. 5. The quick reparative response not only in noncrippling apparent paralyses, but in those apparently crippled as well, is not in accordance with similar lesions in the sporadic cases of this year or previous years. 6. He found a carrier in only one family out of several thousand children from New York City and vicinity, and that was in a family who brought a case of poliomyelitis with them. 7. Since the middle of September only one case of poliomyelitis has been reported, while there have been three typhoids, four scarlet fevers, and six diphtherias—all in children of ten and under, where the onset, signs, symptoms, and course were no wise different from the poliomyelitis of the summer except that there were no paralytic mainfestations. The family history, the family or house carriers, when found, indicated streptoccocal grippe.

Case of Speech Inhibition.—The case reported by Blanton was one of a psychoneurosis due to some mental conflict. It was an accentuation of the fear and timidity which many high-strung and neurotic children suffer from when they first leave home for school. The boy's vocal cords and hearing were normal. At home he talked in a good loud tone when he was playing with his brothers. However, when on the play-ground with other children, he would not speak, even when playing games. At home, he speaks much less than do his brothers. He seems to try to avoid speaking. For example, if he desires something at the table, instead of asking for it, he gets it himself. However, he sometimes sings after he has gone to bed, and then his voice is full-toned and pleasant. He appeared to be suffering from mental conflict resulting in an inhibition of his speech. Blanton points out that this case shows that parents and teachers should not neglect to take notice of cases of excessive timidity in children that prevents them from speaking when in school or with strangers. This excessive fear is due to infantile conflicts and repressions and lack of adjustment, and unless these conditions are removed, a serious neurosis may develop.—Jour. A. M. A., March 3, 1917.

Lipodystrophy in a Boy.—Dr. Boissonnas, in Correspondenz-Blat fur Schweizer Aerzte, describes a case of this relatively new affection which has hitherto been seen to attack girls only. The patient is six years old and his trouble appeared two years before, after pertussis. The face, while its musculature is normal, is quite free from fat. This lack of fat involves the neck but does not exceed further downwards. Arms and trunk have normal fat, but the notes and lower extremities show a notable increase of adipose. On account of this peculiar distribution the dystrophy is spoken of as "fatleggedness." The absence of fat in the face and neck gives a peculiar appearance to the child whose cheeks are hollow and eyes deeply sunken. The diameter of the cheek shows that only skin and mucosa are present.

Acetone Body Production in Children.—J. Howland and W. McK. Marriott, Am. Jour. Dis. Child., Nov., 1916. Acidosis and acetonuria are not synonymous terms. There is no justification for believing that acidosis is due to acetone bodies occurring in epidemic form. Deficient food or increased requirement for food (disproportion between caloric intake and output) is the chief cause of acetonuria, but this rarely results in acidosis. The production of acetone occurs at times when starvation cannot be held responsible. The production is rapid and excessive and sufficient to cause a severe or fatal acidosis. This condition is not necessarily accompanied by vomiting. It probably depends on the same underlying metabolic disturbance as do the majority of cases of recurrent vomiting.—Archives of Diagnosis, Oct., 1917.

BOOK REVIEWS

Practical Urinalysis, by B. G. Williams, M.D., Director Wabash Valley Research Laboratory, Author of Laboratory Methods. Cloth, illustrated. C. V. Mosby Company, St. Louis, Mo.

This is a handy little Guide to the examination of the urine including general, chemical, qualitative, quantitative, microscopical, and bacteriological urinalysis—full and explicit directions for each. The examination of the urine should be regarded as a necessary part of every diagnostic examination and unless this is done, the patient is denied a large part of that which scientific medicine offers today.

Clinical and Laboratory Technique, by H. L. McNeil, A.B., M.D., Adjunct Professor of Medicine and Instructor in Physical Diagnosis, University of Texas. Cloth, illustrated. C. V. Mosby Co., St. Louis, Mó.

The competent physician of this decade, if he would become an internist, must of necessity acquire a very intimate and personal knowledge of the medical laboratory. A successful medical diagnosis is best and most accurately reached by the systemic application of, 1st, a clinical history examination, a physical examination, and last, but not least, a laboratory analysis—and this book aims to give the physician all of the laboratory tests which will aid him in arriving at an exact diagnosis. The common laboratory methods used in diagnosis are delineated briefly but succinctly for the examination of the urine, blood, sputum, gastric contents, duodenal contents, feces, spinal fluid, serous exudates and transudates, the Wassermann Reaction and gonococcus fixation test. The tests are presented in a systematic way in which they are best carried out in practice.

Materia Medica and Therapeutics, Including Pharmacy and Pharmacology, By Reynold Webb Wilcox, M.A., M.D., L.L.D., D.C.L., F. A.C.P., Professor of Medicine (retired); New York Post-Graduate Medical School and Hospital; Visiting Physician, St. Mark's Hospital; Member of Committee of Revision of the U. S. Pharmacopoeia. Seventh Revised Edition. Small octavo, IX—830 pages. Cloth, $3.50. P. Blakiston's Sons & Co., 1012 Walnut Street, Philadelphia.

In this volume full attention is given to pharmaceutical processes, to the various preparations, with their dosage, and to the art of prescribing; after which the description of remedies is taken up in detail. The list of therapeutic agents is divided into two main parts, under the heads of Inorganic and Organic Materia Medica, and the general classification adopted is one based on the groupings of the articles according to the chemical or physiological division to which each belongs. In order to make the book more complete, condensed descriptions of the action and uses of all the remedies have been appended.

The course on Materia Medica and Pharmacy should include performance of the simpler pharmaceutical operations, demonstrations of the official drugs and preparations, and practice in prescription writing.

This is a concise, yet a full book. It gives a full statement of the facts bearing on the subjects considered without burdening the reader with usless details of platitudes. It would be difficult to lay one's hands on a book which so admirably presents our existing knowledge of materia medica and pharmacy. So, because one can easily reach in this book the facts—the plethora of words have been studiously and intelligently omitted.

This is a most valuable working guide to the student and practitioner, a work of unquestionable merit and which we take pleasure in recommending to the profession.

Shuttleworth and Potts. Mentally Deficient Children; Their Treatment and Training.—By G. E. Shuttleworth, B.A., M.D., Medical Examiner Defective Children, Willesden Education Committee, London, and W. A. Potts, B.A., M.D., Consulting Medical Officer, National Association for Promoting the Welfare of the Feebleminded. Third Edition with 18 plates. 12-mo. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

The author hopes in this small volume to arouse interest in the special education of mentally deficient children. He very satisfactorily sets forth the violent peculiarities of this unfortunate class and suggests the ameliorative measures found most useful. The pathology of this unfortunate class is only slightly referred to, just enough to furnish a few practical hints which may serve the physician in his diagnosis, prognoiss and recommendations, when consulted in the case of the mentally feeble or deficient child.

In the last revision much new matter has been added. Chapter VI has been entirely rewritten and rearranged, with much new matter added. The illustrations are våluable and on the whole the book is very instructive and should have the most careful study of every medical man who has to treat this type of mental deficiency.

The Treatment of Infantile Paralysis, by Robt. W. Lovett, M.D., Boston. Assistant Professor of Orthopedic Surgery, Harvard Medical School; Associate Surgeon to Children's Hospital, Boston, Surgeon to Infants' Hospital. Cloth bindings with 133 illustrations. P. Blakiston's Son & Co., 1012 Walnut Street, .Philadelphia.

This book was written to meet the demand for reliable data in the treatment of this scourge. The last epidemic of Infantile Paralysis has directed the attention of the profession to this disease, and has at the same time rapidly advanced our knowledge of the malady and its treatment. Dr. Lovett aims to present in a practical manner the latest knowledge of the various therapeutic measures which will ameliorate the conditions of these helpless afflicted children.

The author dwells at length on muscle training, following recovery from the acute attack as he does not favor operation for at least two years after the onset of the disease. He therefore emphasizes the necessity for the early mechanical training of the muscles, which in his opinion, constitutes the most important of the early therapeutic measures.

VOL. XXIX L, 1917 No. 4

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PEDIATRICS

Vol. XXIX MARCH, 1917 No. 3

EDITORIAL

POINTS IN THE EXAMINATION OF CHILDREN

In the examination of an infant or young child, every care should be taken to avoid abruptness or hurry. We must remember that we have to do with beings who act not from reason, but from instinct; that any sudden movement frightens them, a little pressure hurts them, and in either case a cry and a struggle bring the examination abruptly to a close. Again, young children, as a rule, dislike the sight of a strange face, and if old enough to understand the object of the visit, are already prepared to look with a distrust upon the "doctor." Still, it is a mistake to suppose that children always make unmanageable patients. They are no doubt quick to take fright, but it should be the constant care of the practitioner to avoid any look or gesture which may arouse their suspicions. If he look, speak, and move gently, and does not hurry, most children will allow themselves to be examined thoroughly without great difficulty.

On entering the room, it is well to accustom them to our presence before we even appear to notice them at all. This interval can be usefully occupied by questioning the mother as to the onset of the illness and the character of the early symptoms. We can also take this opportunity of inspecting the motions or vomited matters. In searching into the history of the case, it is especially desirable to obtain some starting-point for our investigations. The question, "When did the indisposition begin?" often receives only a vague reply; while an inquiry as to the time which has elapsed since the child was last in good health may elicit an account of more or less interference with nutrition and indefinite malaise extending over a considerable interval. Some tact is often required in obtaining a definite account of the beginning and early progress of the illness. It is important to avoid suggesting a reply by the character of the question, while it is often necessary to be minute in our inquiries in order to stimulate a flagging memory.

In infants and young children much may be learned from mere inspection of the face. It is an advantage in these cases to find the patient asleep. We can then study at leisure the color and general expression of the face, the form of the features, the presence or absence of lines or wrinkles, and remark if the nares act in respiration or the eyelids close incompletely. We can besides notice the attitude of the child, can count the pulse and respiration, and can observe their degree of regularity or any deviation from the healthy state. Even if the child be awake, many of these points can be noticed if we approach quietly and do not speak to or offer to touch the patient. Any movements he may make at this time in his cot must receive due attention, for they often convey valuable information.

THE VALUE OF CLOSE OBSERVATION IN EXAMINING CHILDREN

In the new-born infant the tint of the face immediately after birth is a dull red. The redness, however, soon begins to subside; in a day or two the complexion assumes a slight yellow tint and then passes into its normal coloring. The yellow tint and its diagnosis from infantile jaundice must be accepted after very careful examination.

The clear, fresh complexion of a healthy baby or young child is familiar to everyone. A loss of its purity and clearness is one of the first indications of digestive derangement. The face becomes muddy-looking, and the upper lip whitish or bluish; blueness of the upper lip in early life is a common sign of laboured digestion. In some children difficult digestion is shown by an earthy tint of the face which spreads to the forehead. It appears a short time after the meal and may last several hours. In chronic bowel complaints the earthy tint is constant. It is common in cases of chronic diarrhoea in the infant; and if at the same time there is much emaciation, the derangement is likely to prove obstinate. In syphilis, the prominent parts of the face, the nose, cheeks, chin and forehead, assume a swarthy hue. In lardaceous disease the complexion is peculiarly pallid and bloodless; in rickety children whose spleens are greatly enlarged, it has a greenish or faint olive cast and in cyanosis the face has a characteristic leaden tint, the conjunctivae are congested, the eyelids and lips thick and purple. Lividity of the skin round the mouth and nose with a purple tint of the eyelids is common as a result of deficient aeration of the blood. In severe cases the cheeks at the same time have a dull white color, and the symptom is an unfavorable one. In the spasmodic stage of whooping-cough the face looks swollen as well as livid, the lips and eyelids are purple and thick and the conjunctivae are congested and often bloodshot.

In addition to the actual tint of the face the general expression must receive attention. In a healthy babe the physiognomy denotes merely sleepy content, and no lines mark the smooth uniform surface. Pain is indicated by a contraction of the brows which wrinkles the skin of the forehead. This is especially noticeable if the head is the seat of suffering. If the pain be in the abdomen the nose often looks sharp, the nostrils are dilated, and the child draws up the corners of the mouth with a peculiar expression of distress. In every case of serious disease, the face, even in repose, has a haggard look, which must not be disregarded. If this be accompanied by a hollowness of the cheeks and eyes the result is a ghastly expression which cannot escape attention; but a distressed look may be seen in the face although there is no loss of roundness of feature. If this be the case, even in the absence of striking symptoms, we may confidently predict the onset of serious disease.

THE MEANING OF CERTAIN OBJECTIVE SIGNS IN THE SICK CHILD

Often an inspection of the face will help us to a knowledge of the part of the body affected. Many years ago M. Jadelot pointed out certain lines or furrows in the face of an ailing infant which by their position indicate the seat of the derangement, thus:

The oculo-zygomatic line begins at the inner canthus of the eye, passes thence downwards and outwards beneath the lower lid, and is lost on the cheek a little below the projection of the malar bone. This line points to disease or derangement of the brain and nervous system.

The nasal line rises at the upper part of the ala of the nose and passes downwards, curling round the corner of the mouth. This line is a constant feature of abdominal mischief and is never absent in cases of gastro-intestinal derangement.

The labial line begins at the angle of the mouth and runs outwards to be lost in the lower part of the face. This is more shallow than the preceding. It is a fairly trustworthy sign of disease in the lungs and air-passages.

These lines have a distinct practical value and should be always attended to. We should also notice if the eyelids close completely, for imperfect closure of the lids during sleep is a common sign of weakness. Moreover, it must not be forgotten to ascertain the condition of the pupils and the presence or absence of squint. The nares must not be forgotten. If they act in respiration the movement is a common accompaniment of laboured breathing, and if accompanied by a high temperature is very suggestive of pneumonia. Even the shape of the feature must be attended to. An elongated head with square forehead and small lower jaw are characteristic of rickets; a broad flat bridge to the nose, especially if conjoined with prominence of the forehead and absence of eyebrows, suggests syphilis; and a big globular head surmounting a small face and little pointed chin indicates unmistakedly chronic hydrocephalus.

The attitude of the child as he lies in his cot is not to be overlooked. Sometimes it is characteristic. A healthy infant or young child, even if lying on his back, inclines to one side and turns his head so as to bring the cheek in contact with the pillow. If a baby be found lying motionless on his back, with closed eyes and face directed straight upwards to the ceiling above him, he is probably the subject of serious disease. This position may be seen when the child is unconscious, as from tubercular meningitis; or is profoundly depressed, as in acute inflammatory diarrhoea. If the child lie on his side with his head greatly retracted on his shoulders, it is a suspicious sign of intra-cranial disease. If in such a position the breathing is audible and hoarse, the case is probably one of laryngitis, or there is some impediment to the passage of air to the glottis. If the patient be found in his cot resting on his elbows and knees with his forehead buried in the pillow, or if he sleep lying on his belly, there is no doubt abdominal discomfort. These positions are common with rickety children. If the child presses his eyelids against the pillow turning partially on his chest, we may suspect intolerance of light.—(Eustace Smith, third edition, "Diseases of Children.)

ALCOHOL AND THE UNBORN CHILD

Now that prohibition is gradually increasing the number of its adherents the conflict between the defenders of alcohol and its opponents is growing more bitter, and naturally both turn to medical testimony for support. Both, it may be added, get it, although since the experiments of Kraepelin there has been a decided tendency to give Demon Rum the worst of it. Especially has controversy raged about the effect which alcoholism in the parents may have upon the offspring. One of the chief contributors to our knowledge of this subject, Dr. J. W. Ballantyne, recently read a paper before the English Society for the Study of Inebriety, giving his own findings—they practically represent his whole life work—and quoting the experiments of Stockard and Papanicolaou upon alcoholized guinea pigs. These experiments show that alcoholism in the parent does exert a baleful influence upon the germ cells, individually and collectively as the embryo and the fetus. Ballantyne does not mince words when he says: "Alcohol is a danger to antenatal health and a menace to antenatal life at every one of the stages of that existence and through each of the progenitors." This certainly does not place the responsibilitp anywhere but where it belongs, on the shoulders of the parents. It is also interesting in view of the recent attempt to show that epilepsy, for example, is sometimes the result of impregnation at the time when both parents were alcoholized. —Medical Record.

PEDIATRICS

ORIGINAL ARTICLES

RATIONS FOR BOYS MILITARY TRAINING CAMPS

BY WILLIAM EDWARD FITCH, M.D.
First Lieutenant, Medical Reserve Corps, U.S.A.
Author Foods and Feeding in Health and Disease
Editor Pediatrics, Etc.
Fellow of the American Medical Association
Member Medical Association of the Greater City of New York

> "Old men bear want of food best; then those that are adults; **youths bear it least**; most especially children, and of them the most lively are the least capable of enduring it."

Statistics of normal food consumption in the adult are readily available, particularly so during the past few decades, in which a far reaching interest in the problem of human nutrition has engrossed the attention of physiologists and biological chemists.

The rapid progress which has recently been made in infant feeding has thrown light upon the dietetic needs of the human individual in early life. In fact, Pediatric literature abounds in well established facts pertaining to the caloric requirements of the infant; but there is, on the contrary, a singular dearth of statistical information pertaining to the actual food requirements and dietary habits of the young adolescent. In fact, both the physiology and pathology of the adolescent period offer a fertile field with abundant opportunity for research to extend this knowledge.

DuBois has done some splendid work in this particular field, he has shown by caloretric experiment at the Russell Sage Institute of Pathology that the actual food requirements of young boys is 25 per cent above that of the adult. The pubescent period in both sexes is marked by great physical growth and development.

The alimentation, at this period to meet the demands for wear and tear, growth and development, should be very rich in easily digested proteins. There is no period in man's existence when there is greater need for suitable, wholesome, nutritious alimentation—that which will supply the necessary energy for the daily wear and tear of the body; together with the requisite elements for growth and development, than at this period.

The adolescent youth should have a liberal allowance of whole wheat bread, fresh eggs, wholesome meat and fresh vegetables, and fruits of all kinds, provided he digests them well, but highly spiced food should be restricted.

A recent investigation by Gephart[†] affords an insight into the actual amounts of nourishment taken by more than 300 boys in one of the largest private boarding schools in the United States. The total animal supply for such an institution containing 355 boys was computed as follows, in metric tons, —2200 lbs.:

	Protein	Fat	Carbohydrate
Food Supply - - -	20.5	25.6	60.5
Waste - - - - -	3.8	5.4	4.2
Food fuel - - - -	16.7	20.2	56.3

The quantity of food, computed on the basis of the individual meal served, appears as follows:

	Pounds	Grams	Calories	Calories per cent
Protein - - -	0.1107	50.2	206	14*
Fat - - - - -	0.1332	60.4	562	39
Carbohydrates -	0.3717	168.8	692	47
			1,460	100

*Seventy per cent of this was in animal protein.

The food was of the best quality and included 193 separate varieties. The cost per meal was 20 cents, or 13.8 per thousand calories.

This is twice what the poor man in New York pays for his food. But these growing athletic boys were not satisfied with the conventional 3,000 calories per day. The investigator of their dietary ascertained that beside the 4,350 calories which they consumed daily at the table, they bought 650 additional calories in food at a neighboring store, the principal item being chocolate.

The following table[‡] presents one estimate of the daily caloric requirements of a man weighing 150 pounds (70 kilos):

	Calories
1. Absolute rest in bed without food	1,680
2. Absolute rest in bed with food	1,840

[†] In the Laboratory of the Russell Sage Institute of Pathology, from Editorial, J'l A. M. A.

[‡] From Vol. 3, Chapter 43, Foods and Feeding in Health and Disease, by the Author.

3. Rest in bed eight hours, sitting in chair 14 hours, with food	2,168
4. Rest in bed eight hours, sitting in chair 14 hours, walking two hours, with food (professional men, clerks, etc.)	2,488
5. Rest in bed eight hours, sitting in chair 14 hours, vigorous exercise two hours, with food	2,922
6. California farmers' families require 97 grams protein with other food to yield	3,515
7. California farm laborers require 144 grams protein with other food to yield	4,100
8. A mechanic requires 140 grams protein and other food to yield	3,500
9. A ploughman requires 140 grams proteid and other food to yield	4,000
10. Connecticut football team in training required 131 grams protein and other food to yield	5,740
11. California football team required 270 grams protein and other food to yield	7,885
12. Harvard boat crew required 153 grams of protein and food to yield	4,620
13. Yale boat crew required 171 grams of protein and other food to yield	4,070
14. A man sawing wood requires 185 grams of proteid and other food to yield	5,700

From this table we see that a patient in hospital requires a minimum of 1,840 calories if the diet is to maintain the metabolic balance. If he should not be confined to bed he will require a minimum of 2,168 calories; and these estimates do not take into account any unusual demands made because of the increased wear and tear caused by the disease process. A California farmers' family requires a daily ration yielding 3,515 calories, while the farm laborer requires 4,100 calories; a mechanic, 3,500 calories; a ploughman, 4,000; a boy in a Connecticut college football team requires 5,740 calories; on the Harvard boat crew, 4,620 calories; on the Yale boat crew, 4,070 while a man sawing wood needs 5,700 calories. The fuel to furnish the required energy may be derived from the consumption of proteids, fats or carbohydrates.

Lusk[†] points to the fact that 5,000 calories is the amount of energy a real live American boy needs. A dietary furnishing only 2,800 or 3,000 calories will not sustain the growing youth, as evidenced by the "ravenous" appetite of boys. Lack of appreciation of this fact and failure of providing for it are the contributing causes of undernutrition in young boys.

[†] Graham Lusk: "Food Economics," Journal of Washington Academy of Science, Vol. 6, Page 340, 1916.

The facts presented above, based on a liberal series of investigations and observations, rather than a few sparsely scattered data deserves emphasis to, and attention of, medical men, and in these late days of military preparedness, particularly of the army officer who has charge of rationing Boys' Military Training Camps.

I have had some experience with boys in camp and realize the necessity for a well balanced ration for these youngsters, particularly with a liberal protein content which is easily digested and readily assimilated.

It was my privilege to be ordered to Fort Terry last August for service with the Boys' Military Training Camp, and it was a part of my duty to daily inspect the kitchens, the cooking and serving of the food for the boys. I soon become convinced that the officers who planned the rations, while they did remarkably well, under the circumstances, were lacking in experience in rationing young and growing boys. I append herewith the menus for the first week of the camp.

JULY 7, Breakfast—		Grams	Calories	Total Calories
Corn Flakes	5 tablespoonsful	65	81	
Eggs, boiled	two	100	160	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Breakfast cocoa				
Milk and sugar	1 cup	240cc.	279	800
Dinner—				
Roast beef	liberal helping	100	240	
Brown gravy	2 tablespoonsful	30cc.	25	
Stewed peas	3 heaping tablespoons	92	111	
Boiled new potatoes	3 medium sized	150	145	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	957
Supper—				
Fried bologna	liberal helping	100	258	
Fried potatoes	liberal helping	50	290	
Stewed apples	3 heaping tablespoons	100	120	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	1204
	Calories for dav - - - - - -			2961

JULY 8, Breakfast—		Grams	Calories	Total Calories
Oatmeal and milk	3 heaping tablespoons	100	201	
Fried pork sausage	2 links	70	328	
Boiled potatoes	1 large	150	145	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	1110
Dinner—				
Pork	1 slice	30		
and beans	4 heaping tablespoons	80	294	
Pickles		0	0	
Catsup		0	0	
Stewed tomatoes	2 heaping tablespoons	100	16	
Vegetable soup	6 ounces	180cc.	35	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	781
Supper—				
Creamed cheese	liberal helping	80	364	
Potato salad	3 tablespoons	100	123	
Queen olives	3 large	30	60	
Stewed peaches	3 tablespoons	100	228	
Iced tea	1 glass	240	40	
Bread	2 slices	60	160	
Butter	1 large cube	15	120	1095
	Total Calories for day - - - - - -			2986

JULY 9, Breakfast—				
Farina	liberal helping	100	56	
Fried eggs	two	100	160	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	652
Dinner—				
Roast pork loin	liberal helping	100	210	
Stewed corn	2 heaping tablespoons	100	101	
Mashed potatoes	2 heaping tablespoons	100	112	
Bread	2 slices	60	160	
Butter	1 large square	15	120	
Coffee, milk, & sugar	1 cup	240cc.	156	856
Supper—				
Cold sliced ham	1 slice	33	93	
Potato salad	2 heaping tablespoons	100	112	
Jelly fruit, pure	3 heaping tablespoons	125	201	
Iced tea and sugar	1 glass	240cc.	100	
Bread	2 slices	60	180	
Butter	1 large square	15	120	806
	Total Calories for day - - - - - -			2317

JULY 10, Breakfast		Grams	Calories	Total Calories
Oatmeal and milk	3 heaping tablespoons	100	201	
Pork sausage	2 lengths	70	328	
Bread	2 slices	60	180	
Butter	1 square	15	120	
Cocoa and sugar	1 cup	240cc.	279	1088
Dinner—				
Corn beef	1 large slice	50		
and cabbage	3 heaping tablespoons	100	145	
Boiled potatoes	1 medium size	150	145	
Bread	2 slices	60	160	
Butter	1 square	15	120	560
Supper—	—			
Macaroni & cheese	2 heaping tablespoons	140	477	
Stewed tomatoes	2 heaping tablespoons	70	16	
Assorted cakes	3 cakes	150	300	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk & sugar	1 cup	240cc.	156	1229
	Total Calories for day - - - - - -			2877
JULY 11, Breakfast—				
Corn Flakes & milk	4 heaping tablespoons	115	93	
Boiled eggs	two	100	160	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk & sugar	1 cup	240cc.	156	689
Dinner—				
Roast beef	liberal helping	100	240	
Fresh stringless beans	liberal helping	120	30	
Boiled potatoes	1 large	150	145	
Stewed tomatoes	2 heaping tablespoons	70	16	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Tapioca pudding	3 heaping tablespoons	110	172	783
Supper—				
Beef pot roast	large slice	100	357	
Stewed sweet corn	1 ear	100	100	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Jelly	1 heaping tablespoon	35	113	
Iced tea and sugar	1 glass	240cc.	80	930
	Total Calories for day - - - - - -			2402

JULY 12, Breakfast		Grams	Calories	Total Calories
Sliced oranges	1 A size	250	96	
Milk toast	2 slices	180	260	
Butter	2 squares	30	240	
Cocoa	1 cup	240cc.	279	855
Dinner—				
Roast mutton	1 large slice	75	234	
Gravy	2 tablepoonfuls	30cc.	25	
Stewed peas	3 tablespoonfuls	92	110	
Mashed potatoes	2 tablespoonfuls	100	112	
Bread	2 slices	60	160	
Butter	1 square	15	120	761
Supper—				
Frankfurters	3 large	100	258	
Potato salad	3 tablespoonfuls	100	123	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Stewed apples	3 tablespoonfuls	80	200	
Coffee, milk & sugar	1 cup	240cc.	156	897
	Total Calories for day - - - - - -			2413

JULY 13, Breakfast		Grams	Calories	Total Calories
Fried bacon	2 slices	35	140	
Oatmeal	3 tablespoonfuls	100	201	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk & sugar	1 cup	240cc.	156	777
Dinner—				
Pork	1 slice	30	294	
and beans	4 heaping tablespoons	30		
Vegetable soup	4 ounces	240cc.	35	
Catsup				
Bread	2 slices	60	160	
Butter	1 square	15	120	
Rice pudding	2 heaping tablespoons	110	179	
Milk	1 glass	240cc.	157	945
Supper—				
Pink salmon	2 tablespoonfuls	100	198	
Potato salad	3 tablespoonfuls	100	123	
Iced tea	1 glass	240cc.	80	
Queen olives	3 large	30	60	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Fig newtons	3 cakes	85	308	989
	Total Calories for day - - - - - -			2711

I have amplified the menus by showing the quantity of the servings represented in grams giving the fuel or energy value of each article of food in calories, the total calories for each meal, for each day for one week, which averages 2,652 calories. Students of trophodynamics who have given much thought to the dietary requirements of a young American boy know that the above ration is lacking in fuel value, especially so, when we remember that the boy requires one half as much more as a farmer at his occupation—which is strenuous.

Various authorities have estimated the protein requirements as ranging from 60 to 150 grains. Voit's standard was 118 grams, Chittenden thinks 60 grams sufficient, while Atwater's standard at moderate work is 125 grams and at severe work 150 grams. As previously stated, the growing boy needs a larger percentage of available protein in his dietary than the adult. He not only needs it for the necessary wear and tear upon the tissues the same as the adult, but in addition the requisite amount for growth and development. Moreover the bodily needs does not depend upon protein, but useful protein. A complete protein contains about 17 amino-acids, and while most animal protein is complete, many vegetable proteins are not.

Therefore depending upon the variety of protein furnished it will appear that it may become necessary to consume several times the amount of protein actually kalobolized in order to obtain sufficient useful protein. Since we cannot consult a chemist daily with regard to the amino-acid components of various proteins, we will err on the side of safety if we should ingest slightly more than is absolutely necessary. ,

Careful experimental research has emphasized the fact that each individual needs a different amount of food which will vary according to his structure and surroundings; he will need protein, carbohydrates, fats, water and in addition to mineral salts it is absolutely essential that certain types of proteins, certain types of fats and certain salts be included in the dietary, and besides he must have other "accessory substances" generically called vitamines, if he is to show physical growth. It is recognized at the present time that something more is essential for the maintenance, growth, development and well being of man than the ternary food elements just mentioned. Foods contain a minute proportion of "accessory substances," and when these are deficient or absent from the dietary, the immature body does not grow, the mature body does not maintain a normal healthy condition and manifestations of disease soon appear.

Vitamines are contained in varying proportions in all food products, some food constituents being rich in them and others very poor. Again in other foods the vitamines are abstracted or destroyed in the various processes of preparation, and cooking; an ordinary mixed diet contains sufficient vitamine to maintain normal constructive metabolism.

Unless food contains sufficient vitamine principles, no matter how well balanced the ration may be in the ternary food elements, nor how large quantities are consumed, nor how high the caloric value may be, there will be malnutrition. This is the case among the poor, who consume large quantities of food which is neither proportionately balanced nor sufficiently varied to furnish the requisite vitamine content and for this reason diseases of malnutrition are common.

Many natural foods contain these "accessory" and vitally necessary "substances." Yeast, for instance, is rich in vitamines; the yolk of eggs, fish, brain, liver, kidneys, sweetbread, oatmeal, the various legumes—beans and peas, barley, wheat, and corn, are fairly rich in vitamine, while fresh milk and meat contain vitamine in small amounts. Vitamines are fairly susceptible to a temperature of 100 C. but a temperature beyond 120 C. for any lengthy period of time will destroy most of the physiological activity of the vitamines originally present in foods. Therefore canned vegetables, fruits and meats are devoid of vitamine because of the excessive degree of heat necessary to sterilize the food sufficiently for preservation. Funk has recently experimented with canned beef (the ordinary brands furnished by contracting packers for the U. S. A.) and found that when comprising, with water, the sole aliment of a dog, that he died in two weeks, while control animals allowed the usual menu for dogs remained in fine physical condition.

The following foods are relatively poor in vitamines: Sterilized (canned) milk, sterilized (canned) meat, cabbage, turnips, carrots and like vegetables, all dried vegetables, dried fruits, highly milled cereals (white patent roller process flour, corn meal and polished rice), pork, molasses and corn syrup.

The cooking of food is an art. By scientifically applying the requisite temperature certain flavors are developed which tend to increase the appetite, but on the other hand much good food is wasted by careless cookery. Cooking, moreover, destroys the tough cellulose coverings of vegetables, thus permitting them to be more easily acted upon by the various digestive fluids. Oatmeal, for instance, should be boiled on a slow fire for four or five hours, and unless it is so cooked not more than 50 per cent of its fuel value will be available. The cook can put the oatmeal in a large boiler on the rear of his stove when he starts supper and the cooking can be continued after supper is served, until all the cellulose coverings of the starch, granules are ruptured, which takes from four to five hours. Then it is all ready for breakfast, except the time necessary to thoroughly warm it ready to serve.

Below I append a daily menu for one week of what I consider a well balanced ration for a growing boy; this ration will furnish about 125 grams of protein daily and an average of about 4,300 calories.

PROPERLY BALANCED DIETARIES FOR BOYS MILITARY TRAINING CAMPS

Graphically showing requisite amounts of the ternary food elements and fuel or energy value in calories.

MONDAY, Breakfast—	Serving	Grams	Calories	Total Calories
Orange	1 medium	250	96	
Oatmeal, milk, sugar	3 tablespoonfuls	100	201	
Eggs	2 boiled	100	160	
Fried bacon	2 slices	35	140	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk & sugar	1 cup	240cc.	156	
Salt, pepper				1033
Dinner—				
Creamed pea soup	6 ounces	180cc.	243	
Roast beef	1 slice	100	343	
Brown gravy				
Lima beans	2 heaping tablespoons	80	128	
Mashed potatoes	2 heaping tablespoons	100	112	
Lettuce	one-half head	200	10	
American cheese	1 ounce	31	136	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Bread pudding	3 heaping tablespoons	155	338	
Cocoa	1 cup	240cc.	279	
Salt, pepper, pickles, catsup				1863

Supper—	Serving	Grams	Calories	Total Calories
Lamb or pork chop	one	100	200	
Macaroni & cheese	2 heaping tablespoons	140	477	
Sliced tomatoes	1 medium size	200	46	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Peach pie	one-sixth	126	352	
Iced tea	1 glass	240cc.	80	
Salt, pepper, pickles, catsup				1425
Total Calories for day - - - -				4321
TUESDAY, Breakfast—				
Stewed prunes	six	120	312	
Shredded w'h't, m&s	one	69	205	
Scrambled eggs	two	100	160	
Baked hash	2 heaping tablespoons	100	140	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk, sugar	1 cup	240cc.	156	
Salt, pepper				1253
Dinner—				
Tomato soup	6 ounces	180cc.	186	
Roast lamb	1 slice	100	200	
Baked beans	3 heaping tablespoons	115	152	
Baked Potatoes	1 large	150	160	
American cheese	1 ounce	31	136	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Indian meal pud'ng	2 heaping tablespoons	164	324	
Cocoa, milk, sugar	1 cup	240cc.	279	
Salt, pepper, pickles, catsup				1817
Supper—				
Cold roast beef	1 medium slice	100	300	
White potatoes	3 heaping tablespoons	145	350	
Cucumbers	8 thin slices	50	9	
Green corn	1 ear	100	100	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Sugar cakes	three	15	75	
Lemonade	1 glass	240cc.	150	
Salt, pepper, pickles, catsup				1264
Total Calories for day - - - -				4334

WEDNESDAY, Breakfast—	Serving	Grams	Calories	Total Calories
Cantaloupe	one-half medium	465	93	
Oatmeal, milk, sugar	3 tablespoons	100	201	
Eggs	2 soft boiled	100	160	
Broiled ham	1 slice	35	140	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee, milk & sugar	1 cup	240cc.	156	
Salt, pepper				1030
Dinner—				
Creamed corn soup	6 ounces	180cc.	150	
Roast ham	1 large slice	150	210	
Boiled cabbage	3 heaping tablespoon	100	5	
Lettuce	one-half head	200	10	
Baked beans home made	3 heaping tablespoons	115	298	
American cheese	1 ounce	31	136	
Creamed potatoes	4 heaping tablespoons	115	140	
Olives	3 medium	30	60	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Rice pudding	3 heaping tablespoons	165	357	
Cocoa, milk, sugar	1 cup	240cc.	279	
Salt, pepper, pickles, catsup				1925
Supper—				
Steak	1 medium slice	100	185	
Potato chips	3 heaping tablespoons	50	295	
Cream cheese	2 cubic inches	40	180	
Creamed Onions	3 small	100	125	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Apple pie	one-sixth	125	352	
Water	1 glass	240cc.		
Salt, pepper, pickles, catsup				1465
Total Calories for day - - - - -				4326

THURSDAY, Breakfast—				
Stewed prunes	6 medium	120	312	
Force	5 heaping tablespoons	18	66	
Eggs	2 soft boiled	100	160	
Bacon, fried	2 slices	60	140	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Orange marmalade	1 heaping tablespoon	30	105	
Coffee	1 cup	240cc.	156	
Salt, pepper				1219

Dinner—	Serving	Grams	Calories	Total Calories
Potato & meat soup	6 ounces	180	210	
Roast beef	1 slice	100	357	
String beans	4 heaping tablespoons	120	26	
Baked potatoes	1 medium size	130	149	
Sliced tomatoes	1 medium size	200	46	
American cheese	1 ounce	31	136	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Ice cream	2 heaping tablespoons	100	190	
Chocolate cakes	1 medium slice	70	258	
Cocoa	1 cup	240	279	
Salt, pepper, pickles, catsup				1929
Supper—				
Pork chop	1 chop	70	113	
Macaroni and cheese	2 heaping tablespoons	140	470	
Sliced beets	2 heaping tablespoons	70	29	
Green corn	1 ear	100	100	
Sliced cucumbers	8 thin slices	50	9	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Peach pie	one-sixth	126	360	
Salt, pepper, pickles, catsup				1361
	Total Calories for day - - - -			4598
FRIDAY, Breakfast—				
Peaches	1 average size	128	44	
Oatmeal, milk, sugar	3 heaping tablespoons	100	201	
Eggs	2 soft boiled	100	160	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Toasted cheese	2 ounces	50	250	
Coffee, milk & sugar	1 cup	240cc.	156	
Salt, pepper				1091
Dinner—				
Creamed pea soup	6 ounces	180cc.	243	
Fresh haddock or white fish	liberal helping	100	108	
Lima beans	3 heaping tablespoons	120	200	
Creamed mashed potatoes	4 heaping tablespoons	115	141	
Sliced tomatoes	1 medium sized	200	46	
American cheese	1 ounce	31	136	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Bread pudding	3 heaping tablespoons	155	337	
Queen olives	3 medium sized	30	60	
Cocoa	1 cup	240cc.	279	
Cakes	two	22	94	
Salt, pepper, pickles, catsup				1929

Supper—	Serving	Grams	Calories	Total Calories
Vegetable soup	6 ounces	180cc.	24	
Baked beans	4 tablespoons	200	400	
Cheese & macaroni	3 heaping tablespoons	140	441	
Sliced tomatoes	1 medium sized	200	46	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Lemon pie	one-eighth	110	288	
Lemonade	1 glass	250cc.	174	
Salt, pepper, pickles, catsup				1325
	Total Calories for day - - - - -			4334
SATURDAY, Breakfast—				
Stewed prunes	six	120	312	
Shredded wheat	1 biscuit	69	205	
Eggs	2 boiled	100	160	
Baked hash	2 tablespoons	100	140	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Coffee	1 cup	240cc.	156	
Salt, pepper				1253
Dinner—				
Creamed corn suet	6 ounces	180	160	
Roast beef	1 slice	100	310	
Cauliflower	3 heaping tablespoons	180	12	
String beans	3 heaping tablespoons	90	18	
White potatoes	3 heaping tablespoons	145	350	
Bread	2 slices	60	160	
Sliced tomatoes	1 medium sized	200	47	
Butter	1 square	15	120	
Rice pudding	3 heaping tablespoons	165	257	
Olives	3 medium	30	60	
Cocoa	1 cup	240cc.	279	
Salt, pepper, pickles, catsup				1743
Supper—				
Mutton chop	1 chop	100	135	
Potato chips	3 heaping tablespoons	50	295	
Green corn	1 ear	100	100	
Sliced cucumbers	8 thin slices	200	9	
American cheese	1 ounce	31	136	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Peach pie	one-sixth	126	352	
Lemonade	1 glass	250cc.	150	
Salt, pepper, pickles, catsup				1564
	Total Calories for day - - - - -			4560

SUNDAY, Breakfast—	Serving	Grams	Calories	Total Calories
Cantaloupe	one-half medium	465	93	
Oatmeal, milk, sugar	3 heaping tablespoons	100	201	
Eggs	2 boiled	100	160	
Breakfast bacon	2 slices	35	140	
Bread	2 slices	60	160	
Currant jelly	1 heaping tablespoon	35	113	
Butter	1 square	15	120	
Coffee, milk, sugar	1 cup	240cc.	156	
Salt, pepper				1143
Dinner—				
Water melon	1 large slice	300	40	
Bean soup	6 ounces	180cc.	70	
Olives	3 medium	30	60	
Roast chicken	liberal helping	100	273	
Baked potatoes	1 large	150	160	
Radishes	six	50	8	
Sliced tomatoes	1 medium sized	200	46	
Green peas	3 heaping tablespoons	92	110	
Bread	2 slices	60	160	
Butter	1 square	15	120	
Bread pudding	3 heaping tablespoons	155	337	
Ice cream	2 heaping tablespoons	100	139	
Cocoa	1 cup	240cc.	279	
Salt, pepper, pickles, catsup				1852
Supper—				
Chicken soup	6 ounces	180cc.	78	
Baked beans	4 heaping tablespoons	200	400	
Baked macaroni and cheese	2 heaping tablespoons	100	300	
Sliced tomatoes	1 medium sized	200	46	
Green corn	1 ear	100	100	
Bread	1 slice	30	80	
Butter	1 square	15	120	
Peach pie	one-sixth	126	252	
Salt, pepper, pickles, catsup				1476
Total Calories for day - - - -				4471

SOCIETY TRANSACTIONS

SECTION ON PEDIATRICS*

Stated Meeting, Held November 9, 1916

Dr. Royal Storrs Haynes in the Chair

This program was arranged under the auspices of the Pediatric Department of the New York Post-Graduate Hospital.

Eczema Due to Deficient Thyroid Secretion in Which the Administration of Thyroid Acted as a Specific.—Dr. M. H. Edelman presented this case. He stated that the patient, a boy three and one-half years of age, was of Hebrew parentage, born in the United States. The only point of any significance in the family history was the fact that the mother and a sister became gray at the age of twenty years. While pregnant the mother said she suffered from gravel for which she was under treatment. Her diet during pregnancy and lactation consisted of cooked fruits, cereals, fresh vegetables, and milk, but no red meats. The patient had had none of the diseases of childhood, but had furunculosis at the age of six months. The child was weaned at the age of ten months and put on a diet of mil, water, cereal and fruit juices; at the present time eggs, sugar and butter were given in moderation in addition. Since the age of four months the child had had a scaly weeping eruption, involving the cheeks, forehead, chin, scalp, neck, shoulders, chest and upper and lower extremities. In spite of constant treatment and withdrawal and modification of the diet this eruption persisted. For the past year the child had been looking old, was not playful and masturbated. On July 22, 1916, the child was brought to the Post-Graduate Hospital. At this time he showed the typical cretinoid facies, and other characteristics of cretinism. The tonsils were small and adenoids were present. The neck was tense and the child unable to turn his head, due to the tenseness of the skin. There was general glandular enlargement; the abdomen seemed large and distended, and there was a slight umbilical hernia and lordosis. There was hyperplasia of the penis and a state of priapism. The reflexes were normal. The Wassermann, luetin and von Piruet reactions were all negative. The blood examination showed hemoglobin 70 per cent., red blood corpuscles 4,200,000, white blood corpuscles 6,500, polynuclears 62 per cent., leucocytes 36 per cent., and eosinophiles 2 per cent. The child was given thyroid extract one-half a grain daily. No change was made in the diet. Bran baths were ordered every night. In August the child returned very decidedly improved. The eczema of the scalp, face and neck had almost disappeared and that of the legs had improved slightly. The mother volunteered the statements that for the first time in three years the child now slept through the night. Improvement continued during the following week, but owing to loss in weight the thyroid extract was discontinued, sugar and fats were eliminated from the diet, and unguentum Lozias was used for local applications. The patient then became worse and the thyroid extract was again administered, one-quarter of a grain being given daily. Again there was a marked improvement. The child had gained in weight and at the present time was getting one grain of thyroid extract daily, but he still retained the cretinoid facies. The improvement under thyroid extract and the regression when this medication was withdrawn pointed to a condition of hypothyroidism. A review of the literature showed that a large variety of dermatoses might be due to deficiency of thyroid secretion. In considering the treatment of hypothyroidism it must be borne in mind that a child with deficient thyroid secretion had lessened metabolic powers. Talbot had found that the metabolism of a cretin three and one-half years of age was about equal to that of a normal child eight months of age. This meant that one must give less food to these children at the beginning and increase the amount as they improved. Fairly large doses of thyroid extract should be administered at first in order to remove the results that might have been produced by privation of thyroid secretion; later smaller doses were administered in order to maintain a normal equilibrium and prevent recurrence.

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*Medical Record.

Dystonia Musculorum Deformans.—Dr. James Louis Joughin reported this case. He stated that the term "dystonia musculorum deformans" was one of two names suggested by Oppenheim for a peculiar disorder of station and locomotion first described by him in 1911. He also suggested the name "dysbasia lordotica progressiva," but preferred the former appellation, and it was the one more generally accepted. Oppenheim had described the essential characteristic of this disease on a basis of four cases coming under his observation. He stated that it occurred in children or young adults of Jewish parentage and was characterized by tonic and clonic spasms of the muscles supporting the pelvis, the lumbar and abdominal muscles, and the muscles of the upper and lower extremities. The onset was insidious, the first symptoms usually manifesting themselves in the arms; but the pelvic girdle and the lower extremities were ultimately most affected. The patient was unable to stand upright, the trunk was flexed forward upon the pelvis, and in addition to this it tended to sag to one side and at the same time rotated somewhat upon the pelvis. The patient attempted to overcome this forward ptosis of the body by placing the hands on the thighs just below the gróins and as the disease progressed and the trunk increased its forward flexion, he slid his hands down the anterior aspect of the thighs until finally he stood propping up the trunk with the hands resting above the knees. The arms were usually held with the forearms pronated, active supination was often impossible, and on attempting passively to supinate the arms this was usually opposed by a series of marked clonic contractions appearing in the pronator radii teres and internal rotators of the arm, which tended to restore it to the pronated position. The legs were usually flexed and were sometimes adducted or rotated inward by the tonic spasm of the muscle gròups. Talipes equinus varus was an early and frequent deformity. This peculiar posture, so marked when the patient was standing, became immensely exaggerated as soon as he began to walk. Tonic contractions of the lumbar, abdominal and thigh muscles jerked the trunk forward, backward, or to either side. Nearly all these deformities disappeared when the patient was either dorsally or ventrally recumbent. There was no pain and no objective sensory disturbance. The course of the disease was slowly progressive with remissive tendencies. No etiological factor had been decided upon. The case reported varied from this description to a slight extent. The patient was a girl nine years of age, whose family history was negative so far as the dystonia was concerned. Her trouble began with slight jerking of the right arm and turning in of the left foot. She shortly afterward began to bend forward. Her attitude at present was that described so well by Oppenheim. The left leg was held extended and inwardly rotated. The great toe was usually extended and the other toes were occasionally widely separated. Myoclonic contractions could be plainly felt in the left anterior tibial groups and the way in which the toes extended and flexed was suggestive of athetosis. Myoclonic contractions also occurred in the muscles of the shoulder, girdle and upper arm. The jerking of the trunk described as occurring when the patient attempted to walk was very little evident. On removing her hands from her thighs the whole trunk collapsed forward, and the torsion of the trunk and the tipping of the pelvis materially increased. The kyphosis disappeared on lying down and the spine could be flexed dorsally without difficulty. Two series of photographs showed that the disease was slightly progressive. The patient had a stutter or stammer of the functional type, which was the last of her symptoms to develop. Most men regarded this disease today as a peculiar form of tic neurosis or possibly another of the multiform manifestations of hysteria. Oppenheim had suggested that it might be due to some undetermined lesion of the brain analogous, perhaps to the anatomical basis which we inferred existed in paralysis agitans. Opposed to Oppenheim's view was the absence of any organic disturbance of the central nervous system and the widespread and fluctuating character of the symptoms which it would be difficult to reconcile with an anatomical lesion. Opposed to the functional view was the absence of suggestion or emotion as a genetic factor, the chronic progressive course, and the changes in the reflexes which were not met with in a purely functional condition. It would probably ultimately be definitely included in this latter category.

Splenomegalia.—Dr. Roger H. Dennett said that since 1882, when Gaucher reported the first case of primary splenomegaly, fourteen authentic cases had been reported in the literature, all occurring in seven families. Eight children of these same families died during infancy of unknown diseases. In only six cases was the diagnosis absolutely authentic. The congenital character of this affection was very evident, since more than one case in a family occurred in all but two of the cases reported. Of eight authentic cases that had been verified, five by autopsy, and three by the antemortem removal of the spleen, the pathological findings had been identical. The liver and spleen were enormously enlarged, retained their normal shape, and microscopically were firm and resistant. Microscopically the spleen showed a large number of alveolar spaces filled with large endothelial cells, which were typical of the disease, and which together with the connective tissue were the cause of the increased size of both liver and spleen. The symptomatology and physical findings of primary splenomegaly consisted of an enormously enlarged spleen, a somewhat enlarged liver, unaccompanied by any enlargement of the lymph nodes, or by any marked change in the blood. The patient usually sought treatment because of the enlargement of the abdomen which had attracted attention, often without symptoms. Some of these children seemed exceptionally strong and athletic, as, for instance, the patient to be presented, who thought nothing of a thirty-five-mile canoe trip and was, in fact, working particularly hard to reduce his waist line, as it annoyed him merely from the esthetic standpoint. So far as the blood was concerned there might or there might not be anemia. At certain stages the red cells might number as many as six millions. In the present instance, repeated examinations during the past ten years had never shown the red cells to be below four millions, or the hemoglobin below 75 per cent. There was never any increase in the number of white blood cells, but there was occasionally a leucopenia. In the different count the lymphacytes had been reported in some of the cases, and early in this case there was a relative increase in the lymphocytes, that was when the boy was eleven or twelve years of age. There were now 67 per cent polynuclears and 31 per cent. lymphocytes. The prognosis was one of the most interesting phases of the disease since the patient usually died of some intercurrent affection not of the disease itself. Of the fourteen cases reported only three were said to have died of the disease itself, and even in these there was some doubt as to whether death was due to the disease under consideration. The advisability of splenectomy was extremely doubtful since the liver continued to increase in size after the spleen was removed; the mortality of the operation was high; the disease evidently did not give the victom any discomfort, and it did not in all probability shorten life. The patient presented had been under Dr. Dennett's observation for ten years. He was now twenty-one years of age. The family history was absolutely negative. There were six children in the family, the mother had had no miscarriages. One child died of typhoid fever at the age of seventeen years, and another of a disease said to be malaria. The former of these had had splenic enlargement for years, the cause of this enlargement not being known to his mother. When first seen by Dr. Dennett in 1906 the physical examination was negative except for the enlargement of the liver and spleen. The boy was of average size, though short in stature, with a round, rather fat face, and lips a little thick. The tonsils were slightly enlarged. The heart and lungs were negative. The upper border of the liver was at the sixth rib in the nipple line; the lower border was two inches below the costal margin. The spleen occupied the whole of the left half of the abdominal cavity as far as the umbilicus, extending down into the pelvis. The notch could be plainly palpated. The glands were not enlarged. The blood count showed 5,000,000 red cells, hemoglobin 85 per cent., 6,000 white blood cells, 55 per cent being lymphocytes and 30 per cent polynuclears, 12 per cent. transitional, and 3 per cent. eosinophiles. During the ten years that this boy had been under observation he had had a great many blood examinations, usually two or three a year, and except for the change in the differential count, that was the increase in polynuclear leucocytes, the blood picture was the same today. The last blood examination, Nov. 4, 1914, showed 4,000,000 red blood cells, 6,000 leucocytes, 67 per cent. polynuclears, 31 per cent. lymphocytes, and 2 per cent transitionals. The Wassermann test had been repeatedly negative.

Acute Myelogenous Leucemia in an Infant.—Dr. Godfrey R. Pisket presented this communication. He stated that the blood diseases were uncommon in children and the myelogenous variety was rare, at least five times more rare than the lymphatic form. A careful search of the literature had shown 19 authentic cases of myelogenous leucemia of which seven were less than two years of age. The case showing the highest cell count was one reported by Hutchinson in which the white blood cells numbered 1,580,000 and 59 per cent. of these were myelocytes. The case reported was that of a baby, 14 months of age, who had been healthy until ten months old. The family history was negative; there were five other apparently healthy, normal children. When 10 months of age an eruption appeared on the child's face and the mother took

Two weeks later the infant fell from the arms of his sister and afterward the mother noticed a lump on the child's face, near the right ear. On the following morning a similar lump was noticed in the upper right hypochondriac region. About this time the child began to have green stools, later streaked with blood. The mother took the child to the Gouverneuer Hospital where he remained for a week. She then took him home and two weeks later brought him to the Post-Graduate Hospital. The child was breast fed but was apparently also receiving the regular family diet. At this time both ears were discharging profusely and there was swelling in the parotid region which for the past week had been increasing in size. The child was emaciated, prostrated, his color cafe au lait, the mucous membrane pale, and the musculature flabby. The anterior fontanelle was open, the eyes sunken, the lymph nodes enlarged in the cervical, axillary and inguinal regions, the abdomen distended, with a visible tumefaction over the left side. The nasal and aural discharge was purulent; the liver enlarged 6 1-2 cm. below the free border; the spleen markedly enlarged to the crest of the ilium below and to within 2 cm. of the umbilical line. The pus from a paotid abscess showed gram positive streptoccus. The leucocytes numbered 118,000; polynuclear neutrophiles 55 per cent.; lymphocytes 35 per cent. (large 10 per cent. and small 25 per cent.); myelocytes 20 per cent. The following day the red cells numbered 2,480,000 and hemoglobin 25 per cent. Two days later the leucocytes had increased to 173,000 and the lymphocytes to 36 per cent. The myelocytes were 6 1-2 per cent., of which the neutrophiles were 6 per cent. and the basophiles .05 per cent. Vomiting, diarrhea and prostration were the chief symptoms. The temperature varied from normal to 101 degrees F. for five days and then rose to 103, and continu-with marked remissions to rise to 104 degrees F. on the last three days. Thirty-five c.c. of the mother's blood were injected without any apparent benefit. The patient died eleven days after admission to the hospital. The autopsy findings showed that the abdominal cavity contained about 100 c.c. of clear straw colored fluid. The liver was greatly enlarged and extended 8 cm. below the costal margin in the median line. The spleen was greatly enlarged, extending down to the brim of the pelvis. There was no increase of fluid in the thoracic cavity. In the left upper lobe of the lung a nodule, 1 1-2 cm. in diameter, was found, which was caseous in the center with a fibrous capsule surrounding. Several of the bronchial nodes were enlarged, the mesenteric glands were enlarged, especially about the head of the pancreas. The result of the microscopic him to the Essex Street Dispensary, where he was under treatment for three weeks, when the eruption disappeared. examination showed splenomegally; leucoblastic hyperplasia of the bone marrow; enlargement of the abdominal lymph nodes, engorgement of the liver and kidneys with myelocytic cells, and congestion and engorgement of thelungs. There was also a large caseous tubercle in the left lung, with numerous smaller tubercles surrounding it. It seemed that from the newly formed tubercles that the process was still active. A careful blood examination alone enabled one to classify these conditions. The prognosis had thus far been uninfluenced by the use of the x-ray, salvarsan or atoxyl. Possibly serial injections and repeated injections of homologous blood might be of value, particularly in cases in which an early diagnosis was made.

Dr. L. T. LeWald said he would like to know whether the Roentgen ray findings in myelogenous leucemia bore any relationship to those found in chloroma. The findings in chloroma, both in the bone medulla and the cortex, seemed to be quite characteristic. He asked whether Dr. Pisek's case had been examined Roentgenographically, and if so what the findings in the bones were.

Dr. Pisek replied that this patient has not been submitted to a Roentenographic examination. He said that myelogenous leucemia was so rare that he thought we should follow out every avenue of research in the future. It did not seem probable to him that there was any relationship between chloroma and the disease under discussion.

Dr. Elias H. Bartley said they had a case of myelogenous leucemia at the Long Island College Hospital quite recently which was subjected to an x-ray examination, but it showed nothing. The autopsy gave very nearly the same picture as had just been described by Dr. Pisek. In their case the mesenteric glands were enlarged and looked like a bunch of grapes. They found nothing else aside from the microscopical picture. The history of this case was the usual history of all these cases; they went downhill rapidly and died. In their case there were no petechial hemorrhages, but there was nosebleed and gastrointestinal disturbance. They did not know whether to attribute the gastrointestinal disturbance to the leucemia or to a severe ulcerative stomatitis. The x-ray examination showed suppuration under many of the teeth, and it was thought that a great deal of the rapid decline might be due to the suppuration in the mouth.

Dr. Brennan related the history of a young boy who came to him suffering with tonsilitis whose blood gave the picture of myelogenous leucemia, and the day following his blood examination there was enlargement of the entire superficial lymphatic system, so marked that it looked as though the boy had a general infection. His girth increased from twenty to thirty-nine inches and his spleen became palpable nine inches below the costal margin in the median line. The liver was a little lower. Iron and arsenic were administered without effect. The patient grew worse rapidly and died. He had been unable to get an autopsy. At that time he suggested the name "malignant" or "fulminating" leucemia. Another case also had recently come under his observation, which, like the case just cited, began with a tonsilitis. In this case the blood count showed 50,000 white cells. This patient suffered from nose bleed uncontrollable except by packing. He was treated with blood transfusion, and after the third transfusion there was no enlargement of the glands in the axillary or inguinal region. A few of the epitrochlear glands were still enlarged. This boy seemed to be absolutely comfortable and the blood picture was improving. Clinically the blood transfusions seemed to have done a great deal for him.

Dr. J. S. Ferguson said that Dr. Pisek's case and the discussion both pointed to a possibility that had been in his mind for some time, suggested by cases of Hodgkin's disease, first in an adult and then in a child, and this was the possible relation of chronic infections to both myelogenous leucemia and to Hodgkin's disease. Dr. Pisek's case had no chronic infection except tuberculosis; it did show a tuberculosis process in thelungs which gave evidence of recent activity. The case described by Dr. Bartley showed extensive suppuration of the mouth. The speakers cases simulating Hodgkin's disease showed marked septic infection in the mouth. The case discussed by Dr. Brennan showed a possible infection through the tonsils. One case which he had watched for a time had an extensive mouth infection, and following the cleaning up of the mouth the glandular and splenic enlargements disappeared. The glands removed in this case showed tuberculosis changes and a process appeared in the lungs which was characteristic of tuberculosis both on physical and x-ray examinations. This boy improved under ordinary surgical treatment, cleansing the mouth, the removal of grossly enlarged glands, and finally the usual treatment for tuberculosis. Dr. Ferguson said he would not suggest that cases of myelogenous leucemia were necessarily related to tuberculosis, but it seemed that if they regarded the various types of adenoid and hematopoietic disease as having a possible etiological factor in suppurative and chronic infections of the body they would not be far amiss.

New York as a Pediatric Center.—Dr. Henry .Dwight Chapin presented this paper, in which he stated that any community that aimed to play a leading role in the advance of modern medicine must have a large population from which to draw. The laboratory and the clinic must be closely joined in order that the most fruitful and lasting results might be obtained. New York City, according to the latest estimate of the Department of Health, had a population of 5,602,841, and the number of children under sixteen years of age was 1,699,901. This population was the most cosmopolitan of any city in the world. There was probably not a strange or unusual race in the world that was not represented in this diversified population. As a fair proportion of this population was poor, dependence was largely given to hospitals and dispensaries for the diagnosis and treatment of diseases. This afforded abundant opportunity for the study of all kinds of maladies. There were 64 hospitals having a total of 2,469 beds for the care of sick children. Dispensaries and outpatient clinics had no less than 76 departments for treating children. There were 13 asylums and homes for housing infants and little children. As the mortality was very high in these institutions a wide field for the study of pathology was thus afforded. The death rate for children under fifteen years of age for the years 1915 was 14.68 per 1,000 estimated population under fifteen years of age. Many factors doubtless contributed to this low mortality, but credit must be given to hospital management as affording some contribution to this result. It seemed to show that cases were often carefully studied and successfully treated. There had been too little attempt at cooperation in an effort to coordinate these various sources of study. Every institution should do its best to make available all its resources to the serious student. As far as pediatrics was concerned, the staff of the Children's Department of the New York Post-Graduate Medical School and Hospital had tried to solve this problem by arranging a seminar lasting a month which aimed to conserve the time of the physician with as complete a course as was possible under the circumstances. This seminar was arranged in four courses as follows: Course I.—(a) Infant Feeding. (b) Dietics in Older Children. Kitchen and Milk Analysis. These courses included feeding in normal and difficult cases; the classification of foods; diet in nutritional disorders, such as rickets and scurvy; diet in chronic or prolonged illness, such as tuberculosis, nephritis, etc.; lavage and gavage. Course II.—(a) Laboratory work in Pediatrics. (b) Pediatric Technic on the Cadaver. (c) Hygiene in Infancy and Childhood. (a) Every effort was here made to correlate the ward and clinic cases with work in the laboratory. All the laboratory methods which might be of aid either in the diagnosis or treatment of children's diseases were studied. The various cutaneous reactions (von Pirquet, luetin, etc.), vaccines, the Wassermann reaction, immunity, metabolism, etc., in relation to children's diseases were here considered. Methods of examining the blood, spinal fluid, sputum, urine and stools were next taken up. Examinations of the various throat cultures and smears for cases of vaginitis were also reviewed. Course III.— (a) Physical Diagnosis. (b) Development and Correctional Exercises (c) Contagious Diseases at the Willard Parker Hospital. (a) This course was essentially clinical and aimed to give the student a comprehensive knowledge of the present methods of examining and diagnosing the various diseases of infancy and childhood. It included systematic examination of the infant and child in connection with diseases of the thorax, heart, kidneys, bones and joints, liver and gall bladder, enlargements of the spleen, nervous diseases, diseases due to lack of internal secretions, tuberculosis and congenital syphilis. (b) Many children although not suffering from orthopedic defects needed systematic exercises and training for their general development. In this course special attention was paid to deep breathing exercises, the correction of postural defects, increase in abdominal tone, exercises in cardiac conditions, etc. Course IV.—(a) Anatomy and Physiology of the Normal Child. (b) Practical Pediatrics. (c) Preventive Pediatrics. (d) Infant Mortality and Social Pediatrics. (a) This course consisted of a thorough course in the anatomy and physiology of the normal child, including a study of the physiological development of the special senses. (b) This course consisted of individual clinical teaching. Patients were assigned to members of the class for examination and the diagnosis and possible treatment arrived at were discussed by the class. (c) It had been demonstrated that in pediatric practice prevention had its greatest application. This course was designed to present the modern methods in a practical manner. For example, prenatal oversight, the special care of premature infants, the prevention of common diseases, of communicable diseases and of parasitic diseases were included in this study. (d) This course included death rates in various communities, methods of registration, means of reducing the death rate, housing conditions, sanitation, eugenics, midwifery, nursing and social service and education of mothers and young girls in the care of little children. Finally pediatric literature and the individual needs of the student were given a place in the plan of study. There was no reason why an exchange of professors should not operate in large communities as well as nationally and internationally. The disorganization of university efforts in Europe should afford New York a chance to greatly enhance its opportunity for advanced work. With such advantages it should become the medical center of the world in almost all lines of effort. It might accomplish this great object if its professional leaders had the vision and would work together for such a promising future.

Clinical Conditions Which Might Be Accompanied by Acidosis.—Dr. Marshall C. Pease read this paper, in which he stated that acidosis might be considered as the failure to normally regulate the normal processes. There was a continuous elaboration of many kinds of acids, such as sulphuric and carbonic, in the body. These acids were normally neutralized or removed from the body so that the tissues and fluids were constantly of a definite degree of alkalinity. The normal preponderance of alkali over acids largely depended upon the maintenance of alkali reserve, which was very largely sodium bicarbonate. The production of large amounts of acids, such as those in the actone series, if they were entirely or largely excreted, would not result in acidosis. The same might be said of the acids that were capable of being neutralized by the alkalis of the food or by the ammonia made from urea.

Acidosis resulted when the production of acids was so great that they could not be neutralized without diminishing the alkali reserve. The normal preponderance of bases over acids was disturbed when the acids were produced in excess or when there was interference with their elimination. The most striking symptoms of acidosis, clinically speaking, was an alteration in respiration, which became of the abdominal and costal type, the most noteworthy feature of which was the distinct effort that was involved and the increased amplitude. There was no evidence of obstruction or cyanosis. The object of the dyspnea was to increase ventilation. In order to maintain the normal reaction of the blood there must be more rapid elimination of carbon dioxide, so that the dioxide in the air of the alveoli of the lungs would be less than normally present. Consequently the easiest way of determining the presence or absence of acidosis was to measure the percentage of carbon dioxide in the blood or in the air of the alveoli of the lungs. In a series of 37 cases the carbon dioxide tension of the blood gave not only a positive diagnosis but suggested the ultimate prognosis. In the few cases in which the carbon dioxide of the alveolar air had been made the findings had been quite as satisfactory as those in which the carbon dioxide blood tension was made. In a series of 14 normal cases the average finding was 40 mm, and the variations above and below this figure were not over 5 mm. In the blood work the van Slyke apparatus was used. In testing the carbon dioxide tension of the alveolar air Marriott's modification of the Plesh-Higgin's method was found to be very satisfactory. Marriott's apparatus was simple, portable inexpensive and required no special skill in its use. It had not appeared that clinically there was any gain from the standpoint of diagnosis or of prognosis between these different forms of apparatus to make either the method of choice. Probably the most common clinical condition in children that was accompanied by acidosis was so-called food intoxication. The symptoms of this form of acidosis were restlessness, sleeplessness changing to somnolence, and finally coma. Inspiration and expiration became more and more exaggerated and dyspnea of the air hunger type developed. Prostration was severe and there was evidence of an enormous loss of fluids. The death rattle among these cases had been in the neighborhood of 80 per cent. The amount of actual diarrhea present bore no constant relation to the degree of acidosis. A prominent symptom of the onset was the severe vomiting, which ceased as the child passed into coma, and might or might not return as recovery took place. Clinically the relationship between this type of diarrhea and milk could be clearly traced, and the suspicion that the milk was stale was highly probable. A complete elimination of milk from the diet for days offered the most hope for ultimate recovery. Nourishment might be supplied by the use of thick gruels and solutions of glucose. As a rulė a starvation period of twenty-four to forty-eight hours would see the end of the acidosis, but it might recur if even a small amount of milk was given. High fat and sugar feeding resulted in diarrhea, but such diarrhea was not under any circumstances accompanied by acidosis, though it did make the child more susceptible to the conditions which predisposed to acidosis. The question had not yet been answered whether this form of acidosis might not be in reality a form of acute proteid indigestion, since with the high proteid feeding of the present day proteolytic processes became prominent in the intestinal tract. Closely related to that form of acidosis which accompanied the above type of diarrhea was recurrent cylic vomiting. A period of starvation was likewise indicated in acidosis of this nature. A matter which had not received the attention it deserved both in recurrent vomiting and ileocolitis with acidosis was the frequent appearance of large amounts of indican in the urine. This was often a transient finding which disappeared, particularly if there had been vigorous treatment. A carbohydrate lack in the food did not seem to suggest itself in either of these conditions. There were other less frequent conditions in children which might be accompanied by acidosis, as diabetes and acute nephritis. In both the acidosis did not often manifest itself except as a terminal condition. Pneumonia was accompanied by a reduction of the carbon dioxide content of the blood, but this seemed to have little if any relaion to the severity or duration of the disease. This was a point worthy of further and more extended observation. The acetonuria which frequently accompanied anesthesia rarely resulted in a disturbance or respiration or in lowered carbon dioxide tension in the experience of the writer. Extensive burns sometimes resulted in acidosis. The treatment of acidosis should be first a period of starvation. The return to food should be to carbohydrate and the vegetable proteids, milk and broths being added very slowly and cautiously.

The acidosis itself must be handled by neutralizing the acids. Sodium bicarbonate might be given by mouth, per rectum, under the skin, or intravenously in quantities sufficient to render the urine alkaline and to keep it so. If used subcutaneously the sodium bicarbonate must be specially prepared. The solution must be sterilized, and when cold carbon dioxide bubbled through it until the phenolphthalein which has been added was colorless. The solution for intravenous injection should be of 4 per cent. strength and from 75 to 100 c.c., according to the size of the child, should be given. By mouth from 10 to 15 grains of sodium bicarbonate might be given every three hours. Dr. Pease described the apparatus used by Marriott for collecting the air and the one they had used, which consisted of a rubber bag such as went inside of a football and a nipple from a wide mouthed hygeia bottle; the extreme end of the nipple was cut off and inserted into the bag and made airtight at its connection. The examination of the air collected in the bag depended on the fact that if a current of air containing carbon dioxide was passed through a solution of sodium carbonate or bicarbonate until the solution was saturated the final solution would contain sodium bicarbonate and dissolved carbon dioxide. The reaction of such a solution would depend on the tension of the carbon dioxide in the air with which the mixture had been saturated and would be independent of the volume of air blown through, provided saturation had once been attained. High tensions of carbon dioxide changed the reaction toward the acid side; low tensions had the reverse effect. The reaction of such a solution might be determined by adding to it an indicator such as phenolsulphonaphthalein. Such an indicator was now manufactured and could easily be carried in one's pocket.

Dr. Oscar M. Schloss said he had been interested in the subject of acidosis in infants during the past three years and had made a number of carbon dioxide determinations with various methods. On Dr. La Fetra's service at Bellevue Hospital they had used the apparatus described by Marriott for several months and had found it very useful and sufficiently accurate for all clinical purposes. It was the simplest method that had been presented and been used by the internes with perfectly satisfactory results. It was due to the work of Howland and Marriott that acidosis had been shown to accompany the so-called alimentary intoxications, and the results which the speaker had obtained with various methods were almost identical with theirs. The only clinical sign which aided in the diagnosis of acidosis was the presence of increased pulmonary ventilation of hyperpnea. This, however, was not present constantly in all cases and it was only by means of one of the laboratory methods that the diagnosis could be made with certainty. The simplest and most accurate of these was the determination of the carbon dioxide of the alveolar air, or the carbon dioxide combining power of the blood plasma according to the method of van Slyke. As Dr. Pease mentioned, acidosis was best treated by means of sodium bicarbonate. The most satisfactory method of administration was the intravenous injection. Dr. Schloss said he had found that it was only in this way that a prompt result could be obtained. In most instances repeated injections were necessary.

Etiology of Scarlet Fever.—The Diplococcus scarlatinae, Mair says, can be demonstrated in the throats of scarlet fever patients during the first week of the disease in 87 per cent. of the cases, and it disappears as a rule from the throat about the fifth week of convalescence, persisting in an as yet undetermined percentage of cases for a much longer period. The diplococcus produces in monkeys a disease which in many respects resembles scarlet fever, although it has little tendency to produce septicemia in the monkey. The Diplococcus scarlatinae is confined to the region of primary invasion, which is usually the throat, and there produces toxins which are poured into the blood stream. Another feature common to the disease in man and in the monkeys is scarlatinal trahritis. No definite evidence of the occurrence of nephritis in the mankeys has yet been obtained. The most outstanding clinical feature of scarlet fever, namely, the rash, has not been reproduced in the monkey. Additional evidence in favor of the diplococcal theory, Mair says, is found in the fact that complement fixation reactions occur with much greater frequency, and with greater intensity in scarlet fever than in control cases. In one case this reaction was found to be distinctly positive on the third day of the disease, while on sugsequent examination on the tenth and seventeenth days it could not be detected. This observation is very much against the view that the diplococcus is a secondary invader. Finally, the biologic characters of the diplococcus are not inconsistent with well known facts in the epidemiology of scarlet fever.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Pyelitis in Children—W. C. Quinby, Baltimore (Journal A. M. A., February 24, 1917), mentions the disagreement that exists as to the origin of pyelitis in children. The most common type is that due to bacilli of the colon-aerogenes group. The three methods by which the infecting organism can reach the renal cavity are by direct extension from below, by the general blood stream, and by way of the lymphatics. The first of these has held the field as most plausible and common, but latterly it has been disputed, since it has never been clearly proved, and in some cases it can be demonstrated to be incorrect. It is probable that the frequency of this mode of ingress has been exaggerated. There still remains, however, the wellknown fact of the large preponderance of girls afflicted over boys. This has been explained by closer proximity of the female bladder to the exterior, with increased chances of infection from the anus. The burden of proof against this possibility is on those who dispute ascending infection, but their proof has not yet been given. The English school of pediatricians advocate keeping the urine alkaline by giving potassium citrate. Others prefer to make the urine acid by sodium benzoate, while still others advocate alternation of these drugs. Some writers are warm advocates of hexamethylenamin. Use of vaccines has been generally disappointing, but the majority opinion seems to favor the use of alkalies. With these discrepancies in the methods and results of treatment, Quinby says that much must depend on the nature of the infecting organism, and it is easy to see that in one case certain treatment might succeed and fail in others. We should endeavor to regulate the urinary reaction either by citrate or benzoate as the case may be, so that it will be as far as possible outside the range of hydrogen ion contraction by the infecting organisms. Cultures from urine should be grown on the special mediums used by Clark and Lubs, and similar observations be made on the urine, and comparison of these will indicate the treatment. It is Quinby's opinion that this method, based on accurate knowledge of the biologic characteristics of the infecting organism, will afford an increased number of cures. Of course, some cases cannot be thus controlled. Some will be found with chronic infection, symptomless, but still diseased. He would advocate for such cases injection of silver nitrate solution into the kidney pelvis, strong enough to produce a moderately sharp reaction. The marked and quick benefit of such treatment is well known, but it has not been applied to young children. He thinks that it could be applied at least in female children. Pediatricians and internists have not yet appreciated the value and possibilities of pelvic injections. —Jour. of the Arkansas Med. Soc., March, 1917.

Sweets and Children's Teeth.—"Sweets should never form the last part of a meal," says Dr. J. H. Gibbs in the Journal of State Medicine (London) (Am. Jour. of Public Health, December, 1916). Sugar gives rise to acids, which decay teeth. Sugary foods are best omitted from a child's diet, he thinks, the starches furnishing all the carbohydrate that is required. However, if we must eat sweets, it is best to let acid fruit or an acid wash be the last part of the meal, as the acid stimulates a flow of saliva, which not only cleans the teeth, but renders the surface alkaline, thus preventing decay.—Int. Jour. of Surgery, March, 1917.

The Substitute Feeding of Infants.—J. P. C. Griffith (N. Y. Med. Jour., Vol. 104, No. 9), gives the present status of the fundamental principles of this subject. The percentage method is defended and some simple methods of making percentage mixtures are described.

The author points out the inadvisability of trying to exactly imitate human human milk by the percentage method as the fat in cow's milk is quite different from that of human milk and an excess of fat is most often the cause of digestive upsets. It has been shown by various teachers, Keller particularly, that a substitution for fat of carbohydrate in the form of starch (wheat flour) and sugar is well tolerated by infants. Buttermilk being so low in fat has proven itself of great value in upsets due to excess of fat but it should be used for short intervals only. The use of buttermilk showed that casein was well tolerated.

Finkelstein's casein milk relieves the same condition of too much fat in the food but his original formula is too complicated for very extensive application. The author has found Hoobler's modification of value. This consists simply of adding 10 grams of casein flour to a pint of water and a pint of buttermilk.

The mother should nurse the infant. If she hasn't sufficient milk she should furnish as much as she can and additional artificial feedings should be given.

The latter should be gradually increased in strength from a weak solution, whether the infant is very young or not.

In acute gastro-intestinal disorders a purgative should be given and weak barley water for 12 or more hours and the former diet should be gradually resumed in two or three days.

In chronic disorders, purgation, starvation, and a buttermilk diet, or buttermilk modified with sugar and starch, should be tried if fat is to blame. If bread and milk is obtainable it should be used.

The stool indicates an excess of fat by its white crumbling or salve-like consistency or the presence of scattered white lumps. If the child is thriving no dietary change is indicated. If a change in diet is indicated the fat should be reduced or the carbohydrate simply increased.

Alkaline putrefactive stools mean protein decomposition, while acid diarrhoea associated with an irritated buttock indicates a carbohydrate intolerance.—St. Paul Medical Jour., March, 1917.

Diaphragmatic Hernia in an Infant.—I. Laurell (Hygeia, April, 17, 1916, p. 474). A female infant, 2 weeks old, suffered from attacks of suffocation on feeding and when being bathed. She was of slender build, and the chest was much distended upwards. Respiration was rapid, and the inspiratory phase was followed by excessive retraction of the epigastrium. Over the left chest the respiratory sounds were markedly puerile, while over the right nothing was heard except over the extreme apex of the lung, where a faint respiratory sound was audible. The percussion note over the left chest was normal, but no definite cardiac dulness was demonstrable. Over the right the percussion note was more resonant and tympanitic, except over a small area behind, near the middle line, where it was relatively dull.

The right side of the chest, therefore, evidently contained air, and the possible diagnoses were emphysema of the lung, pneumothorax, or coils of intestine invading the pleural cavity. The symptoms pointed to diaphragmatic hernia. Four months later this diagnosis was confirmed by the X-rays, which showed an enlarged pleural cavity distended by intestines. A curved line, 3 cm. below the upper limits of the thorax, indicated the lower border of the right lung. The heart and liver were much displaced to the left, and in the position of the right vault of the diaphragm was a curved line, probably indicating the gap through which the intestines had escaped from the abdomen into the chest. This gap was entirely on one side of the body, although in most cases diaphragmatic hernia the flaw in the diaphragm is much nearer the middle line.

Expectant treatment was adopted, and measures were taken to harden the child gradually with baths and open-air treatment to lessen the risk of pulmonary complications. These were considered a greater danger than intestinal obstruction. At the age of 8 months the development was almost normal, although the weight was only 5.8 kilos. Up to this age, when the patient was last seen, there had been no attack of dyspnoea since the first weeks of life. But with increasing activity there had also been greater frequency of the respiration. The prognosis, as in most cases of diaphragmatic hernia, was bad; but it was decided an operation should be deferred till the infant had grown larger and more vigorous and had, at any rate, reached the age of 2 years.—The Medical Review, London, Mar., 1917.

Treatment of Pneumonia in Children.—Louis Fischer (Medical Adviser, February, 1917) advises the use of castor oil or an emetic to get rid of purulent bronchial secretions which are not expectorated in infancy, but swallowed. Fischer makes it a rule in his hospital service that his pneumonia cases receive a teaspoonful of castor oil every morning. In young infants after poulticing for twenty-four hours he orders for an infant one year old one-thirtieth of a grain of apomorphine hypodermically to be repeated in one hour if no emesis occurs. For a child five years old one twenty-fourth of a grain may be given, and care must be taken to give the emetic half an hour before a feeding is due. Apomorphine must be prescribed in a fresh solution prepared from the powder, as the tablets quickly deteriorate. Sulphate of copper may be used by mouth in a dose of one grain in water repeated in one hour if ineffectual. In bronchopneumonia cough is relieved and viscid secretions loosened by steam inhalations with twenty drops of beechwood creosote to the pint of boiling water, or the same quantity of pine needle oil either alone or combined with an equal quantity of compound tincture of benzoin. If there still is cyanosis and dyspnea a warm flaxseed poultice with ten to twenty per cent of mustard should be applied to the affected area of the chest until there is a local hyperemia. The poultices are to be renewed every hour and in suitable cases dry cupping may be tried. In lobar pneumonia diaphoresis may be produced by the administration of one drop of tincture of aconite added to thirty drops of liquor ammonii acetatis every two hours until free prespiration results. Tub baths are indicated with a temperature of 105 degrees F. or over, while lower temperatures are better controlled by tepid packs at 85 degrees F. Rectal or colonic flushing with one or two pints of cool water at 80 degrees F. is a good means of reducing fever. As an expectorant one dram of glycerine every two or three hours may be given, while troublesome cough may be allayed by one-twentieth to one-tenth of a grain of codeine or one-half grain of Dovers' powder every three hours. Nutrition is the most important part of the treatment and the food must be well diluted and the intervals between feedings should be lengthened. Food may consist of milk, soup, broth, strained gruel or milk soured with lactic acid bacilli. Sleep must not be disturbed to give medication. and syrups in medicines should not be given in fever. The urine should be examined daily and scanty secretion should call for two to five grains of diuretin every three or four hours, or sweet spirit of nitre in ten to fifteen minim doses, or other remedial agents given, as potassium citrate or bicarbonate, caffeine citrate, or digitalis either in the infusion or as digitoxin. Whiskey and strychnine give good results in cardiac weakness; water in sufficient quantity must be given to encourage elimination, and antipyretics, being heart depressants, are not to be used at all.—N. Y. Medical Journal, March 24, 1917.

Chronic Ducdenal Indigestion in Children—John Foote, M. D., (International Clinics, Vol. IV, Twenty-sixth Series), believes this condition to occur most frequently in children after the first year, and especially in those who have suffered from dietetic errors, usually with antecedent contagious diseases, or from prolonged intestinal infections. This form of indigestion seems to be accompanied by deficiency or pancreatic ferments, especially lipase. A mild duodenitis, which either passes up the pancreatic duct, or diminished hormone formation, seems responsible for the condition. Diminished bile production may also be a factor. Anemia, loss of weight and mental underdevelopment occur. Large pendulous abdomen are common. Bottle feeding has been employed. Fever may be encountered vomiting almost never. The number of daily stools varies from 3 to 12. They are thin, contain some mucus and flakes of whitish material and have a very foul odor. They give an acid reaction and microscopically contain not only large quantities of fat soaps, but also a considerable amount of neutral fat but rarely starch granules. It is to be differentiated from mesenteric tuberculosis and acute duodenal indigestion. The treatment consists in reducing the food elements which have proven indigestible, namely, the fat, and stimulating enzyme production by the administration of hydrochloric acid and pancreatic ferments.

The Quarantine Period for Measles.—M. B. Whyte (Canadian Prac. and Review, Vol. XLI, No. 8), states that from his evidence it is generally accepted that a clean-cut case of measles is infectious for a short time only. Complicated cases are infectious longer. The most infectious period is the early eruptive period. Most cases seen by the medical profession are seen after the rash is well out. It would seem, then, that most methods directed toward the contacts such as observation of contacts for 10-14 days, and a strict observation and routine examination for Koplik spots, would be of value. Long quarantine has no bearing and if any results are to be expected they will accrue from the observation of contacts rather than from the housing of cases.—Chas. E. Smith, Jr., in St. Paul Med. Jour., March, 1917.

A Clinical Consideration of Migraine.—John A. Litchy, M. D (International Clinics, Vol. IV, Twenty-Sixth Series), considers migraine the most frequent headache, occurring in 700 of his 15,000 patients sick from all causes. He believes that the so-called acidosis in children may often be a forerunner of a well established sick headache habit. The interesting relation between migraine and epilepsy deserves further study. Among the author's 15,000 patients epilepsy occurred in 7, and both migraine and epilepsy in 70. Auerbach's theory which attributes migraine to an actual disproportion between skull capacity and volume of brain. needs further proof. He shows that the diagnosis is easy when there are headaches which are unilateral, periodical and hereditary, but when only one or two of these symptoms are present, or when there is only a periodicity of some of the minor symptoms or possibly of the aurae, the diagnosis may be difficult. Migraine is frequently mistaken for pelvic disease, for acidosis or cyclical vomiting in children, and organic disease, when some of the aurae are present. The psychasthenic and the gastric symptoms frequently lead to confusion in diagnosis While the underlying causes of migraine are vague and furnish little light as to treatment, much can be done to ameliorate the symptoms by proper handling of the exciting causes that aggravate the patient's general condition and precipitate the attacks. Most thorough investigation and careful individualization are indicated. Systematic administration of the bromide salts and avoidance of undue fatigue are especially recommended.—St. Paul Med. Jour., March, 1917.

Treatment of Diarrhea in Breast-fed Infants.—Marfan (Paris medical, Feburary 3, 1917) advises in slight diarrhea in breast-fed babies, that, on the first day, the child be put to the breast only every four hours for five or six minutes at a time; a few teaspoonfuls of pure boiled water may be given in the intervals. On the next day, the intervals may be somewhat shortened, the third day, the duration of the feedings increased, and thereafter a gradual return to normal feeding allowed. In more intense diarrhea, three or four feedings may be omitted, the milk being replaced by a quantity of boiled water by bottle or spoon equal to the amount of milk the child would have taken if well. Feeding as in mild diarrhea is then carried out. As soon as the treatment has been started, a search should be made for some definite cause, such as over-feeding or faulty composition of the milk. Even where such a cause cannot be found, and the diarrhea seems due to a special susceptibility of the digestive tract to irritation by mother's milk, no attempt should be made to change the feeding radically unless the condition is obstinate and seriously retards development. The irritability always finally disappears, but meanwhile two feedings daily may be replaced by bottle feedings with diluted and sweetened cow's milk or, if the child be over four or five months old, with a gruel of rice, milk and water boiled for twenty or thirty minutes. Auxiliary treatment includes the giving of one or two enemas a day of 150 to 250 c.c of a decoction of marshmallow root at 40 degrees C., to be administered once or twice daily on the first four or five days, then every two or three days. Calomel should be avoided, as it aggravates and prolongs the diarrhea. Lime water may be given, one teaspoonful before each feeding, either alone or mixed with one half part of simple syrup, or, if it proves insufficient, of krameria syrup. For more marked effects a mixture to benzonapthol, bismuth subnitrate, and syrup of opium with acacia and water may be used. If the stools contain much mucus, 0.25 gram of tannigen may be given two or three times a day in a little milk. In the few cases with alkaline and malodorous stools, lactic acid in doses of a little over one minim, before feedings, is sometimes effective. If insufficiency of gastric secretion is suspected, the following combination may be tried, though not indicated as often as is generally supposed:

R	Pepsin	1 gram;
	Acidi hydrochloric diluti	0.5 gram;
	Syrupi	50 grams
	Aquae distillatae	100 grams

M. et Sig.: One teaspoonful a few minutes after, or fifteen minutes before, each feeding.

If, on the other hand, insufficiency of secretion seems chiefly intestinal, one may give:

R	Pancreatin	ana 5 grams;
	Cretae praepartatae	
	Sodii bicarbonatis	1 gram

Pone in chartulas no xx.

Sig.: Three or four powders a day a little before meals in milk or sweetened water.

—New York Medical Journal, March 31, 1917.

Pyelitis in Children—William C. Quinby (Journal A. M. A., February 24, 1917) points out that this form of infection is much commoner than generally stated and that its prognosis is far from insignificant, there being a considerable mortality and a great tendency for the condition to run a chronic course with ultimate serious damage to the renal structure. The condition is almost invariably due to infection by one of the members of the colon bacillus group or Bacillus lactus aerogenes group. The different strains of organisms in these two groups show wide variations in their resistance to destructive agents and treatment must take these differences into consideration. Thus one of the most important steps is the frequent determination of the reaction of the urine in terms of its hydrogen ion concentration. Coupled with this the requisite hydrogen ion concentration for the growth of the infecting organism should also be determined. On this basis the treatment should aim to render the hydrogen ion concentration of the urine such as to make it least suitable for the growth of the particular strain of organism present. This can be done by the oral administration of citrates or benzoates, as the case may be. In the small number of cases which cannot be controlled by these means the author advocates the injection of the renal pelves with a solution of silver nitrate of one half to one per cent strength to provoke a sharp reaction. This can readily be done through the urethra in female children and through a perineal incision in males, combined with dilatation of the bladder sphincter. This latter method is justifiable only in very rare cases.—N. Y. Med. Jour, Mar. 31, 1917.

Study of Tubercle Bacilli in Feces of Children with Tuberculosis of Respiratory Organs.—J. Leffler (Hygeia, December 31, 1916) made a study of 110 children in the Stockholm Tuberculosis Hospital, some of which were in advanced stages, as shown by the character of the rales, others being classified according to the roentgenographic changes. Examination of feces for tubercle bacilli by the other method of Reh gave positive result in 16.4 per cent of the cases, most of these being either among the children of eleven to fourteen years of age, or among the nurslings under one year. The author believes that the examination of feces for tubercle bacilli should be undertaken as a routine procedure along with other methods, and accords it a certain diagnostic value, especially in the infiltrating pulmonary tuberculosis of young children, where bacillus holding sputum is only with difficulty if at all obtainable. Regarding the origin of tubercle bacilli in the intestines, as to whether they come from swallowed sputum or from intestinal lesions or from the bile or blood, the author's findings would be an argument against the latter theory, inasmuch as tubercle bacilli are more frequently found in the blood of young children.—New York Med. Jour., March 31, 1917.

Calculus in Children.—Collins says, concerning the diagnosis of renal stone in children (Amer. Jour. Dis. Children): Abdominal pain of a spasmodic character, accompanied by vomiting but without diarrhea, the maximum pain traceable to the kidney or along the ureter, dysuria, rapid recovery from the attack and that followed by passing gravel, leaves little else to complete the diagnosis. In infected calculus pus and very little blood may overshadow symptoms of its presence.—Med. Brief, April, 1917.

BOOK REVIEWS

Sluss Manual of Emergency Surgery, by John W. Sluss, M.D., Professor of Anatomy, Indiana University School of Medicine, Indianapolis; Surgeon to the Indianapolis City Hospital, etc. Second Edition, Revised and Enlarged; 685 illustrations, some of which are colored, xiv—827 pages. Full limp leather, gilt edges, round corners. $4.00 net. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa.

This practical, handy, trustworthy little volume on practical surgery has well earned the place it merits at the hands of the profession.

It is concise, to the point, and the busy physician who has emergency surgical work can always turn to this volume for assistance and without disappointment. In this revision, the latest war surgery is written up-to-date. Modern wound infection has been completely rewritten and brought up abreast of the times—and as I write this, I feel that our Army Surgeons will have need for just such instruction as this book contains. If I am called to the field, I shall take my copy with me.

Hand Book of Suggestive Therapeutics, Applied Hypnotism, Psychic Science, A Manual of Practical Psychotherapy, designed especially for the Practitioner of Medicine, Surgery and Dentistry, by Henry S. Munro, M.D., Omaha, Neb. Fourth edition, revised and enlarged, cloth, 455 pages. $5.00 net. C. V. Mosby Co., St. Louis, Mo.

When a book of this character reaches the fourth edition in ten years, it means that there is a place for the work. The reviewer had the pleasure of criticizing a copy of the first edition and has watched with much interest the growth of Suggestive Therapeutics.

The author's aim has been to present practical and scientific psychotherapy in the profession. This he has done, giving the profession a practical, trustworthy, therapeutic helper over hard places.

The new edition of Munro, shows quite an improvement over the third edition. Two entire chapters have been added; one on "The Tie that Binds and the Urge that Drives," and the other on "Suggestion in Dentistry." Previous editions of this book have been very popular and have been widely sold. We bespeak for this edition a continuation of this past popularity.

The Newer Methods of Blood and Urine Chemistry, by R. B H. Gradwohl, M.D., Director of the Pasteur Institute of St. Louis and the Gradwohl Biological Laboratories, St. Louis, and A. J. Blaivis, Assistant in the same. Sometime technichian in Pathological Chemical Laboratories, New York, Post Graduate Medical School and Hospital, New York. Cloth bindings, 226 pages, 65 illustrations and four color plates. Price $2.50 net. C. V. Mosby Co., St. Louis, Mo.

This work as its title indicates, comprises the technic of blood chemistry, chemical analysis of the urine and blood findings and their interpretation. The author's have, during the past four years, gathered together from current medical literature the major part of the contents of this volume, sifting the tares from the wheat, so to speak, and presenting the kernels, as it were to the physician ready for use. In the main, the authors present but one method for each test, and that one which has stood the test of time and is accepted by the majority of laboratory workers.

This Gradwohl-Blaivis is the latest book on blood and urine chemistry; it covers this subject quite thoroughly, and while eminently scientific, is also practical. It is the last word on the subject. It aims to place in the hands of the laboratory worker and the general practitioner the newest ideas on blood and urine chemistry and analysis.

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Vol. XXIX MAY, 1917 No. 5

EDITORIAL

HOT HOUSE CHILDREN

We remember reading somewhere some years ago, in a non-professional publication of some sort—we would gladly give credit for it if we could recall the name, although the tale was not even then new—the story of a little boy who had been brought up in a most hygienic manner by a scientifically minded mother. The nurse's breast (the mother was an invalid and could not nurse her child, hence her solicitude that hygeia should watch over her son's bringing up) was always carefully washed in boiled water before the child was put to it, and later no raw food, nor even raw milk, was allowed to pass the boy's lips. His meals were carefully regulated and were always at the same hour, and by no earthly chance did he ever get hold of any bread and butter and jam between times. He grew along for several years, being fairly well, but suffering now and then from digestive disturbances, much to his anxious mother's mystification. When he was about twelve years old he went on a visit to his grandmother who had a lot of wretched old-fashioned notions about boys and their stomachs. In her ignorance of hygiene and alimentary asepsis she fed the child on pies and doughnuts and other poisonous confections, and he died within a week of his return home. This is the story in substance, though it was told with greater detail and much more interestingly. We, of course, do not vouch for its correctness; indeed, we have no idea that it ever happened just as related. But although the product of a layman's or laywoman's imagination, it contains the suggestion of a truth which we are in some danger of forgetting. Coddling is often, if not always, pernicious. We cannot avoid danger by running away from it. Some day we must face it, and if then we are unprepared by having met and overcome smaller risks, we must inevitably succumb. A child brought up in a hot-house will perish in his first snow storm, and a stomach which has never had any harder task than to dispose of peptonized milk will collapse in a railway eating house.

THE COST OF CHILD LABOR

In spite of all the agitation and legislation the child labor problem still confronts the public, and is likely to until there are enlisted in its solution not only philanthropists and altruists, but also the rank and file of the country's population. Perhaps no more effective way of securing this co-operation can be hit upon than by bringing to the front the economic aspects of the period when they should be developing the forces which would make them profitable members of the community in adult life. The absolute folly of this expenditure of energy is shown by the fact that even disregarding its ultimate loss, it brings no present gain to the child's family. That is, in trades where it is possible to use women and children, the entire earning capacity of the family is no larger than is that of the man alone in those trades where only men can be employed—a fact fraught with far-reaching significance for the thoughtful.

And for this mere semblance of gain, empty of reality, is bartered the future of the community.

The laws, pitifully inadequate as most of them are, unenforced on one hand and evaded on the other, and children far below the legal age of fourteen years toil day after day, not only for the "12 hours a day or 60 hours a week," which the Pennsylvania law, for instance, permits, but anywhere up to 68 hours in one week, and sixteen consecutive hours in one day. Night work and night alternating with day work, so that even if strength permitted, the child can attend neither day nor night school, add their quota to the list of disastrous influences.

In the northern states much horror has frequently been expressed at the conditions in southern mill towns, but there is no need to cross Mason and Dixon's line to find painful realities. A recent number of Charities contains an article fairly but graphically depicting the state of more than 20,000 of the children of Pennsylvania, and that other northern states can furnish similar examples there is little doubt. The writer recently attended a "party" at a settlement in a town in New York State where the hostesses were girls employed in the local factories. "Over fourteen" of course they were supposed to be, but half of them would have failed to measure up to the ten year old girl in our own homes, and hollow chests and bent shoulders augured ill for the future.

Aside from the physical disaster resulting from the hard work and long hours, a further evil is wrought by depriving these girls of all opportunity to learn how to keep a home. A girl whose life has been spent in the factory knows neither how to cook nor clean nor sew effectively, and married life for her spells disaster. She brings into the world children stunted physically, mentally and morally and does not know how to care for them after they are born.

A century ago the children of the working population of England were swept into the cotton mills, and today England is in a panic over the degeneration of her national physique. That is the cost of child labor. Can we afford to pay it?

THE COW AS AN AGENT OF DIPHTHERIA INFECTION

It has long been a matter of common knowledge that milk affords a convenient vehicle by means of which germs may be spread, and many serious epidemics have been disseminated by the agency of infected milk. Recently the cow itself has been brought under suspicion as the originator and disseminator of diphtheria. A report was issued a short time ago by the English Local Government Board regarding a somewhat wide spread outbreak of diphtheria in the neighborhood of London. After careful investigation, carriers and other possible modes in which the milk may have become infected seem to have been eliminated and it was found that five of the cows at the farm from which the infected milk probably came had irregularly shaped sores on their udders and teats which appear to have infected the fingers of three milkers. One finger was so badly infected that recourse was had to amputation and from it and another of the sore fingers virulent diphtheria bacilli were obtained. Unfortunately the investigators did not see the sores on the cows' teats until they were practically healed nor was the milk examined until the external lesions were healed.

While it has not been definitely proven that the cows themselves spread the infection suspicion seems to point in that direction. The suggestion has been made on more than one occasion when an outbreak of diphtheria has occurred without any traces of its origin having been discovered, that cow infection may have been the cause; at any rate, the suggestion is worthy of note and when suspicion arises it would be well to introduce the bacteriologist to the cow as quickly as possible.

RESUSCITATION OF APPARENTLY DEAD INFANT

BY JAS. B. COUCHE, M.D.

Twisp, Wash.

Last summer I was called to attend a case of midwifery in the Methow Valley from a distance of 65 miles from Waterville. I got there five minutes after the baby was born. Found the cord had been prolapsed for fifteen to twenty minutes before birth and the babe was apparently dead, eyes rolled back and no sign of heart beat by careful auscultation.

I immediately whipped out my hypodermic syringe and gave it one-half cc. of pituitrin in the left hip, followed by immersion in a bath of warm water up to the chin and commenced traction on the tongue. In fifteen minutes I listened to chest and heard the heart give a distinct impulse. Fifteen minutes later I gave it 1-240 gr. strychnin in the other hip. Listened to heart and counted an impulse of 15 to the minute. In two hours gave a small dose of digitalin in shoulder. Counted pulse about this time and heart beat was 130 per minute. The babe cried lustily in the meantime and I handed it over to its mother to nurse.

Someone in like circumstance may find this interesting. This is not original as I read of a case of a woman dead before child was delivered, where pituitrin, injected in the stump of navel, started its heart beating.—Northwest Medicine, April, 1917.

PEDIATRICS

ORIGINAL ARTICLES

PYELITIS IN CHILDREN*

BY CALVIN R. HANNAH, M.D.
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Bacterial infection of the urinary tract in children occurs more frequently than is usually thought. This is true because routine urinary examinations in very young children are not generally made. Symptoms are accepted without proof of their existence and diagnosis is made without the use of the microscope and laboratory.

The urinary tract of very young children is rarely disturbed or deranged except by infection. The mode is probably one of three: First, ascending; second, transparietal; and third, hematogenous or lymphatic.

Ascending Theory.—A convincing argument in favor of this route is that it does occur more frequently in girls than in boys after the first six months. The method of changing diapers in the infant is not very aseptically and carefully practiced; soiled napkins are used to wipe and brush away fecal matter adhering to the buttocks, thus the vulva may be often smeared and coated with bacteria, which gain entrance through the wide open urethra into the bladder and on to the kidney.

The mere introduction of bacteria into the bladder does not necessarily mean an infection or cystitis.[1] Before an infection takes place the mucous membrane must be injured, lowered in vitality, be very hyperemic or the virulency of the bacteria must be materially increased.

The fact that pyelitis occurs more often than probably any other disease after intestinal listurbance, is explained thus: The inflamed colon[2] causes excessive tenesmus and frequent watery stools, decreasing diuresis, and the absorption of the toxins lowers the vitality of the bladder epithelium, while the virulency of the bacteria has been raised by the colitis.

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[1]. Morse, John Lovett: "Infection of the Urine and Urinary Tract by Bacillus Coli in Infancy." Am. Jour. Med. Sciences, Sept., 1909.

[2]. Freeman, Rowland G.: "The Diagnosis and Treatment of Pyelitis in Infancy." Am. Jour. Dis of Children, August, 1913.

*Read before the Section on Medicine and Diseases of Children, State Medical Association of Texas, Galveston, May 19, 1916.—Texas Medical Journal.

Transparietal Theory.—Several observers, in explanation of this theory, claim the mucous membrane of the intestinal wall must be broken before bacteria can pass through; in other words, bacteria will not traverse a normal mucous membrane. My experience in obstetrical work has taught me that severe purging within a few days after delivery is unwise and hazardous, for slight infection has occurred following this practice and I now attribute it to the possible traumatism of the mucous membrane of the colon from the uterine contractions. Wreden has shown by experiments on male rabbits, that every injury made at or above the prostate is followed by cystitis and the bacteria found in the urine are those that usually inhabit the intestine. This supports the theory that lesions of the mucous membrane must exist before infection occurs by this route.

Hematogenous and Lymphatic Theory.—Bacteria do invade the blood and it is claimed by some observers that the organisms are eliminated through the kidney. Others claim destruction of kidney tissue takes place before bacteria are eliminated. The close anatomical relationship of the right kidney and the ascending colon argues for the lymphatic theory, since this kidney is more often involved in adults than the left.

Symptoms.—As a rule nothing prominently directs attention to the urinary tract. Restlessness, vomiting, dysuria, anorexia, chills, and a general sick appearance should lead us always to think of pyelitis. Vomiting may be present, together with a recent or present intestinal disturbance. Tenderness over the kidney is difficult to determine in an infant and is "the unusual rather than the unusual." Ureters, blocked by pus sometimes cause a rise in temperature, restlessness, anorexia and paroxysms of pain, which disappear when large quantities of pus in clumps are washed out and found in the urine. The fever is very irregular, showing sudden rises and sudden drops. Like atypical malaria, is disappears to return within days, weeks, and sometimes months. It is claimed that a child having pyelitis is more susceptible to this trouble in adult life and it sometimes reappears during maturity. Examine the urine for possible pyelitis, in masked febrile cases. Rarely, if ever, do we find typical physical signs, for it is a febrile disease without them.

Urine.—The specific gravity remains about normal; the reaction is usually slightly acid; albumin is present in very small quantity. Microscopically the sediment is pus, mostly single cells, but sometimes in clumps; blood occasionally is found, but not often. In some cases hyaline and granular casts may be present. The disease has apparently no influence on the quantity of urine, which depends usually on the amount of liquids ingested. Diagnosis is made by finding pus cells in the urine. By this method pyelitis is differentiated from atypical malaria and from other diseases with analogous symptoms.

Treatment.—Large quantities of fluid are always indicated. Thomason[4] advocated sufficient potassium citrate to make the urine alkaline. Marsh and Wymann[5] agree with him, yet advocate the changing back and forth from acid to alkaline by the use of potassium citrate and sodium benzoate. Hexamethylenamin in acid medium is regarded by Freeman[3] as an "absolute antiseptic for certain infections of the urinary tract." He bigins with a small dose and carries it high, always watching for kidney irritation. "Large doses of hexamethylenamin should not usually be continued for more than a week at a time. After several days without any treatment, or with alkaline treatment, it should be started again at the maximum dose before given and the amount increased daily until an influence on the urine is obtained. Dose of 25 grains daily in a child of six months, and 35 to 45 grains a day in a child of 9 to 12 months may be safely given in this way to some infants." Our best observers claim but little for vaccines; they have been tried but often found wanting.

I report here two cases: The first, because the patient was so young; the second, because of its long standing.

Case 1.—Baby A.; male; born December 16th, 1915; delivered at 7 p. m., with low forceps; family history negative; no asphyxiation; no injury by forceps; child apparently healthy; weight 8 pounds, 9 ounces.

December 17th, voided four times and had two large meconium stools during the day; nursed four times and partook of water quite freely; rested and slept most of the time.

December 18th, voided five times; had eight small dark

[3]. Smith, Richard M.: Am. Jour. Dis. of Children, April, 1915.

[4]. Thomason, J.: Lancet, London, 1913.

[5] Wymann, E. T.: Boston Med. and Surg. Jour., 1914.

stools; nursed, took water, but was fretful and cried later in the afternoon; was given several enemas during day and night.

December 19th, temperature had been normal until 2 a. m. when it registered 103½; nine small dark stools during the day; voided three times; very nervous and uncomfortable and cried much; weight 7 pounds, 9 ounces; temperature dropped at 6 a. m. to 101 and remained there until the next morning when it was 102.6; nursed; given twenty drops of castor oil.

December 20th, voided seven times; had three small yellow stools; cried, and slept but little during the day; refused to nurse; temperature fluctuated from 103 to 98.6.

December 21st, voided six times; had four small brown stools; temperature fluctuated from normal to 103.6; cried and nursed only when temperature was near normal and then but little; very fretful and nervous; urine slightly acid; trace of albumen and many pus cells, not clumped; had water all along, but more was now given.

December 22nd, still restless, refused to nurse at times; was given twenty drops of castor oil; passed during the day a large green stool, consistency thick and leathery, with apparent relief; temperature dropped and baby slept, much improved.

December 23rd, two stools; voided 10 or 12 times; temperature ran from normal to 101; nursed and rested well; had a few pus cells in urine.

December 24-25, improved and temperature normal; nursed well.

December 26, baby apparently well; a very few pus cells in urine; discharged; no further trouble; now very healthy.

This infection took place either by the transparietal or hematogenous or lymphatic route.

Case 2—Female; colored; aged 13; family history negative, except grandfather died of tuberculosis; normal delivery; breast fed; healthy until four months old, when she had an attack of diarrhea, lasting about one week, followed by what was pronounced malaria with sweats and fever. Some days she was better, on others worse from June until September, at times restless, irritable and refused nourishment when fever was high; prostrated when fever left; napkins stained yellow by the urine. At one year her arms from elbows to tips of fingers and her legs from knees to toes were swollen, which was thought to be rheumatism. She was weaned at two years. At four years her cervical glands were enlarged and diagnosed tuberculous. About this time she had an attack of bronchitis of long duration. Since 4 months old she has had frequent and painful urination and nocturnal enurisis. When first seen, March 18th, she was emaciated, rachitic in appearance and small for her age; cervical glands were enlarged; lungs showed rales in the upper left apex, otherwise negative; blood count showed increased leucocytes, decreased hemaglobin; Wassermann and Von Pirquet negative; urine acid, specific gravity 1.018 with slight trace of albumen, many pus cells with some clumping.

She was given 15 grains of potassium citrate every two hours with a glass of water; two weeks later was given 5 grains of urotropin with sodium benzoate every two hours with a glass of water for ten days, then put back on the alkaline treatment; urine now shows but few pus cells; patient improving and gaining in weight.

The route of infection was probably ascending, through the urethra.

TUBERCULOSIS, A DISEASE OF CHILDREN*

BY F. CLIFTON MOOR, M.D.
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The importance of tuberculosis in early life is one of the subjects which has received especial consideration in latter years. That it makes up no small part of the mortality during childhood is shown by the autopsy findings in practically all medical centers. Still reports tuberculosis lesions in 269 out of 969 consecutive autopsies in the Ormond Street Children's Hospital, and states that in 223 of these tuberculosis was the immediate cause of death. While in New York, in a series of 1320 autopsies in children, all under five years of age, 13.5 per cent showed more or less generalized tuberculosis disease. The mortality among private patients is certainly much less than this, but there is no doubt that many deaths from the acute type, which characterizes tuberculosis in nurslings, are attributed to other causes.

However, it is tuberculous infection rather than tuberculous disease which adds greatly to the importance of the first decade of life. Von Behring originally advanced the view that all primary tuberculous infection occurred before puberty, and the newer tuberculin tests have enabled us to ascertain, with a reasonable degree of accuracy, the number of latent cases and to recognize some of the obscure manifestations of the disease.

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*Read in Section on Medicine, Symposium on Pediatrics, Southern Medical Association. Tenth Annual Meeting, Atlanta, Ga., Nov. 13-16, Southern Medical Journal.

Assuming that a positive cutaneous test is evidence of hypersensibility brought about by the presence of tubercle bacilli in the body tissues, and comparing the results of these tests with autopsy reports and similar tests in adults, we are impressed with the fact that the per cent of positive reactions at puberty is practically the same as at any later period of life.

The largest series of reports come from Europe, where the number of positive reactions is considerably higher than in this country. But the opinion of American investigators bears out the conclusion, that, making due allowance for difference in home hygiene and better living conditions, there is the same relative proportion of infected children and tuberculous adults here as in Europe.

Dr. G. R. Pisek, of New York, gives as his opinion that 60 per cent of all infections occur before the sixth year, and 70 per cent before the fourteenth year. Dr. Alfred Hess, of New York, thinks that over 70 per cent of the infections occur before the third year; and Prof. Hamburger, of Vienna, states that 51 per cent are infected during the first year of life, and 94 per cent by the end of the fourteenth, while results of autopsies in supposedly non-tuberculous adults show that from 69 to 92 per cent have evidence of tuberculous disease somewhere in the body.

For many years tuberculosis was believed to be hereditary. This view was held by the layman and profession alike; and, while we now know that only occasionally is a child actually born tuberculous, the clinical facts are the same today as during the last generation—that is, that tuberculosis is a family disease, and the large majority of intelligent tuberculous patients can give a history of definite exposure to other cases in the household during their own childhood.

The near relation of children to tuberculous cases in the family is necessarily intimate; and it naturally follows that the greatest factor in the infection of children is the presence of active disease in either parents or grandparents. If to this be added a crowded and poorly ventilated home and food of insufficient quality or quantity, there is practically no chance for the child to escape.

Prof. John Howland, of Baltimore, Drs. Holt, Biggs and Chapin, of New York, and Lucas, of San Francisco, believe that 90 per cent of the infections in childhood are the result of close personal contact with the tuberculous individuals; and this seems to represent the majority opinion of the profession today.

The effect of good home conditions on the percentage of childhood infections is shown by Cattermole in a small series of tests among private patients in Colorado, where, with over half of the patients suffering from active tuberculous disease, only 38 per cent of the exposed children and less than 1 per cent of the unexposed gave positive tuberculin reactions.

Fishburg gives us the reverse of this picture from the tenement district of New York, where he found that 67 per cent of the children living with tuberculous parents and over 52 per cent of those with non-tuberculous parents gave positive reactions. This would indicate not only a widespread prevalence of virulent bacilli in the tenement homes, but also a low resistance of tenement children; and the conclusion is justifiable that few of them reach puberty without infection.

In this connection it might be of interest to quote the figures of Knopf, who states that 82 per cent of the cases of tuberculosis in Berlin occur in families occupying two rooms or less and only 6 per cent in families occupying four rooms or more.

Aside from the part undernourishment plays in increasing the general susceptibility to disease, food is a direct etiological factor, but just how much importance bovine tuberculosis may have in the production of the disease is still a mooted question. The British and German Commission found the bovine type in 13 per cent of the cases in children, and Park and Krumwilde, from data obtained in fifteen hundred of their own and collected cases, conclude that over 10 per cent of the tuberculous disease in children under five is of bovine origin.

The report of the United States Bureau of Animal Industry, that between 20 and 30 per cent of the dairy cattle of this country are tuberculous, would indicate that there is opportunity for a widespread infection from this source. That such does not occur must be attributed to the fact that it is only when there is disease of the udder or active ulceration of the intestinal or genito-urinary tract that the purity of the milk is endangered.

The bovine bacillus seldom remains latent in the human and adults seem practically immune to it. In the child the most common clinical manifestations of bovine infection are the cases of so-called lymphadenitis and diseases of the bones, joints and abdomen.

The location of the earliest lesions of tuberculosis when such lesions can be demonstrated, would naturally depend very largely upon the route of infection, that is, whether the disease is acquired through the respiratory or alimentary tract. Wollenstein and Bartlett report that in 178 children under five years of age, in which the initial lesion could be ascertained with reasonable certainty, 135 showed the earliest signs of disease in the thorax. All statistics go to prove that early and marked envolvement of the tracheo-bronchial and, to a less extent, the mesenteric lymph glands, is the rule. And here, no doubt, is the site of the latent disease, which only awaits a more favorable local or constitutional condition to again become active.

In a brief discussion of this kind it is manifestly impossible to more than outline the more common types of the disease peculiar to childhood, and to call attention to the most common symptoms and diagnostic points.

The symptomatology and course varies widely. In older children the symptoms differ little from those seen in the adult; but in nurslings the disease shows a marked tendency to early generalization and progresses rapidly to a fatol termination. The prognosis during the first year is absolutely bad, and during the second year a large per cent of the cases end with meningitis.

The clinical types to be especially noted are generalized tuberculosis, and disease of the thoracic glands, of the lungs and of the abdomen.

In the diagnosis of tuberculosis of any form the cutaneous test is of value. In infancy a positive reaction undoubtedly means active disease; for latent conditions do not exist before the third year. In older children a positive reaction aids in confirming a suspicion of tuberculosis when there are definite clinical symptoms and physical signs; and repeatedly negative reactions will serve to eliminate tuberculous disease from further consideration in the diagnosis.

Another symptom of value, and one which is frequently overlooked, is the presence, in a considerable per cent of cases, of certain characteristic skin lesions. The tuberculides are not difficult of recognition and are often the earliest definite evidence of tuberculosis. The more common clinical types are lichen scrofulorosum, scrofuloderma, erythema induratum and the papulo-neucrotic and papulo-squamous forms. These lesions may be isolated and few in number, but their morphology and sites of predeliction should be kept continually in mind in all routine examinations.

A history of exposure to open tuberculosis in other members of the family is of the greatest diagnostic importance, and particularly if the child is under five years of age and the exposure has lasted over a considerable period of time.

General tuberculosis is often insidious in its onset, and in nurslings the symptoms are frequently those of a general wasting. As a rule a carefully kept temperature record will show the presence of elevated temperature, although this is seldom constant, or regular in its course. It should serve, however, to raise the suspicion of tuberculosis, because marasmus, as a result of chronic alimentary disease, runs a subnormal temperature.

Late in the disease there may be recognized more or less definite signs in the lungs or outspoken tuberculosis elsewhere. But frequently the development of meningitis is the first suspicious symptom.

It is in these cases that the tuberculin test and frequent search for the skin lesions may prove most helpful.

In other instances the clinical picture is more nearly that of an acute infection, with a sudden onset and a rapid rise of temperature. There may be the physical sign of a bronchitis, but the general appearance of a toxic pneumonia.

Tuberculous disease of the lung may be divided into two groups—first, chronic pulmonary tuberculosis, which differs little from the phthisis of adults, except that the disease spreads from the deep-seated bronchial or pulmonary glands and the earliest lesions are frequently in the base or near the root of the lung; and secondly, acute tuberculous bronchopneumonia, which is by far the most common and characteristic clinical type of tuberculosis in early life.

Two symptoms of pulmonary tuberculosis in the adult are of no diagnostic value in children, viz: sweating and hemoptysis. Children sweat easily from any cause, and rickets, debility from acute illness, or severe anemia, may be ample explanation of profuse night sweats.

Hemoptysis is a rare complication of tuberculosis in children. It is much more likely to occur as a complication of whooping cough or pulmonary congestion with advanced heart disease.

Cough is a more or less constant symptom, but is present in too many other conditions to be of much diagnostic value. Holt calls attention to the possibility of sputa examination even in very young children and states that bacilli were found in 80 per cent of his cases. His method of collecting sputa is to incite cough by irritating the pharynx with a cotton or gauze swab, to which the sputa will adhere.

In tuberculous broncho-pneumonia the symptoms and physical signs do not differ from a simple broncho-pneumonia, and delayed resolution is often the first thing which raises a suspicion of tuberculosis.

In the less acute cases paravertebral dullness and changes in the breath sounds in the inter-scapular region are suggestive of tuberculous disease. And if these be associated with elevated temperature, rales and a positive Von Pirquet we may feel reasonably sure of the diagnosis.

We have already noted that disease of the bronchial lymph glands is the most frequent manifestation of tuberculosis in children. This, however, is from the pathological view point. Clinically, such lesions may exist without symptoms or only be suspected when secondary infection occurs. When, however, there is pressure upon some bronchus or irritation of the vagus or phrenic nerve, cough and dyspnea are apt to develop. These constitute the most characteristic symptoms. The cough is dry, sometimes croupy, and often paroxysmal, resembling pertussis. The dyspnea is most marked on expiration and is frequently intermittent.

Enlargement of the superficial veins over the upper thorax may be noted and is especially significant if unilateral. Examination usually shows relative dullness on one or the other side of the sternum at the level of the third or fourth rib or in the inter-scapular space. The most constant sign is vertebral bronchophony at a lower level that is seen in health, extending in some cases as far down as the sixth thoracic vertebra (D'Espines' sign).

The course of disease of the thoracic glands is variable. Encapsulation or calcification may occur, or the glands may go on to caseation and ulcerate into a bronchus, setting up an acute process in the lungs, or again extension through the lymph channels or blood vessels may set up an acute generalized tuberculosis. The disease focus may remain latent for an indefinite period until some intercurrent illness lowers the general or local resistance and lights up the infection. Owing to the bronchial catarrh accompanying them, measles, whooping cough and influenza are the most frequent sources of trouble.

Abdominal tuberculosis, when the result of bovine infection, is usually primary, but it may be and often does occur as a secondary condition to thoracic disease. It may be a part of general miliary tuberculosis, in which case the onset is sudden and the symptoms are those of an acute general peritonitis. When, however, the peritonitis becomes infected from the mesenteric glands, the onset is more gradual and the course is distinctly chronic. There is always marked emaciation and usually a decided afternoon elevation of temperature. There may be free fluid in the peritoneal cavity, but the plastic type is perhaps the more common clinical variety. In this type there develops the "doughy" feeling to the whole abdomen and the characteristic swelling and inflammation at the umbilicus. The differential diagnosis depends upon the history of exposure, the course of the disease and the result of the tuberculin test.

The isolation of all cases of tuberculosis and the destruction of all inefective bacilli may be a "consummation devoutly to be wished for," but it is manifestly impossible.

If the first decade of life is the period of the greatest susceptibility to infection, and such seems to be undoubtedly the general belief, prophylaxis of tuberculosis in childhood becomes the most worthwhile proposition that confronts the medical profession. It simplifies the whole question of prevention, and concentrates our effort along more or less definite lines. As a matter of fact, in the general campaign against tuberculosis the child is given only passing consideration.

The first requisite for the proper institution of preventive measures is a complete census of the tuberculous cases and the enforcement of a law requiring all new cases to be reported. In connection with these reports there should be data as to the home conditions of the patients, number of rooms available for occupancy, number of individuals in the family, and especially the number and ages of the children. This data should be arranged on a unit basis. With such an arrangement, one district nurse to each unit, could make the rounds often enough to keep in touch with the conditions of each family, and combine, to a certain extent, the duties of a visiting tuberculosis nurse and child welfare worker.

The cost to each unit would not exceed the average tax now paid for the control and punishment of petty criminals, and while we will admit the undesirable character of chicken thieves and "crap-shooters," their total elimination is of small importance as compared with the prevention of even a part of our tuberculous mortality.

The points to be stressed are ample protection for all children under five, and prevention of the massive infection, which is sure to occur when there is active disease in either parent or some other member of the household. No mother with active disease should nurse her infant, and she and others of the household should be taught by precept and example all the detailed precautions necessary.

In a certain per cent of the families where ignorance and poverty or a bedridden mother makes home conditions hopeless, there is nothing to be considered except the removal of the younger children to a "preventorium," the establishment of which is one of the first problems that confronts us.

The second and less important requirement in preventing infection is the control of bovine tuberculosis. This can be done only by uniform state laws or, better still, by the Federal government. At present the Federal law prohibits the interstate shipment of tick-infected cattle into tick-free territory, but places no restrictions upon the movement of tuberculous cows; and each state has individual and widely differing regulations.

In addition to the measures to minimize the dangers of infection per se, there are others which will improve the general physical well-being and increase the tissue resistance against active disease. These measures are applicable especially during school age and demand, in addition to uniform school inspection, a school medical advisor. In fact, the physical fitness of the school child is of the greatest importance from every standpoint and should receive as much consideration as his mental training. Every child who is anemic, under weight, scrofulous or otherwise below par, should be given the advantage of open air schools and should receive the especial care of the medical advisor.

In my own state there has been recently instituted work along this line. Beginning in 1914 with two nurses for the whole state, the number has been increased to thirteen, twelve of whom are assigned to definite districts. Previous to the institution of this plan there were practically no cases reported to the board of health. During the first year of the present campaign 1225 cases were seen by the visiting nurses and up till September of this year 2781 patients are or have been visited and instructed in the principles of prevention. The average time between visits is four weeks, and the nurses report that the great majority of the families visited are interested and really endeavor to follow instructions.

PEDIATRICS AND ITS RELATION TO THE GENERAL PRACTITIONER*

BY WALTER R. RAMSEY, M.D.
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The proper conservation of child life is now universally recognized as one of the chief functions of society and the state. A little book issued by the State of Indiana in the interest of its children and distributed free to every family in the State, begins with the following "creed:"

"Every child has the inalienable right to be born free from disease, free from deformity and with pure blood in its veins.

"Every child has the inalienable right to be loved, to have its individuality respected, to be trained wisely in mind, body, and soul, to be protected from disease, from evil influences and evil persons and to have a fair chance in life."

"That State is delinquent which does not ceaselessly strive to secure these rights to its children."

That it has taken society several thousand years to come to this conclusion is one of the things we must attribute to evolution.

The medical profession generally has been slow to realize its responsibility in this great movement and many times has been content to follow the pace set by lay men and women.

*Wisconsin Medical Journal.

Men like Nathan Straus have done more to bring about the improvement of the milk supply in New York than all the doctors put together, a few of whom are still debating whether they can conscientiously advocate the pasteurization of milk for babies.

Of every 100 children born in this State, 17 die during the first year of life, and during the succeeding years a considerable percentage of the remainder succumb. or carry through life the marks of a bad early environment. That most of these children are normal at birth makes the situation all the more shocking. The increase in population of this State can only be maintained by the difference between births and deaths, since immigration has practically ceased. Until recently the baby has been a bi-product in obstetrics and whether a baby lived or died was thought to be a question of the survival of the fittest.

The child was regarded as a miniature adult and was given consideration in proportion to its size. It is now known that it has a physiology and pathology of its own and whether it lives or dies depends largely upon the kind of care and food it receives.

The medical atmosphere of any community will depend largely upon the character and education of the physicians in that community. To say that the function of a physician is in the interest of public health is axiomatic. If, therefore, he does not fulfill that function he has no right to be in the community, at least in the capacity of physician.

In the short time alloted me I cannot do more than point out some of the common fallacies held by physicians relative to pediatrics and, in as far as possible, correct these errors.

First, regarding breast feeding, many physicians have the idea that a large percentage of the women in this country cannot nurse their babies. This is an error, since 80 to 90 per cent of the mothers can nurse their babies in whole or in part for all or a part of the first year.

Most of the failures in nursing are due to faulty technique. The following history will serve to illustrate:

Baby J., normal at birth, weight 7½ pounds. Mother healthy, no complications due to labor. Baby put to breast soon after birth and thereafter every two or three hours. On the second day, the baby began to cry, and there were several stools, at first black and tarry but soon becoming green and watery. The following day the stools began to be mixed with curds, varying in size from a pin head to that of a small pea. A dose of castor oil was ordered, after which there were one or two movements. After the oil, the stools looked slightly better for a day; the crying however persisted and another dose of oil was given with an improvement in the symptoms. During this time the whole household was in an uproar and no one, including the mother, had slept any. The physician was called up by phone, and he asked to have a sample of the milk brought in, and a specimen of the stool. An analysis showed the stool to consist of considerable mucous and many fat curds. After letting the milk stand over night, it showed a much larger percentage of cream than normal. The doctor therefore made a diagnosis of "too rich" milk and advised that unless the situation improved soon, the baby should be weaned. What was the real difficulty? Bad technique throughout.

In the first place the baby should not have been put to the breast more than two or three times during the first 24 hours. There is only a small amount of colostrum in the breasts and it is laxative in character.

,During the second 24 hours the baby should have been put to the breast every 5 or 6 hours, and on the third, every 4 hours. After the establishment of lactation six feedings during the day at 3 or 4 hour intervals is almost always enough and often 5 are sufficient, the point being to give the baby the smallest amount of food upon which it will properly maintain its gain in weight and nutrition. Green, frequent, curdy stools, almost always means overfeeding, unless the mother is taking laxative drugs, which will be eliminated in the milk and produce similar symptoms. The quantity may be varied by increasing or diminishing the time at a feeding, and by increasing or diminishing the interval between feedings—in normal full term infants never less than three hour intervals and if the milk is rich and abundant 4 hour intervals with five feedings in 24 hours. The amount of milk required at different ages is definitely known. It is therefore an easy matter to determine the amount taken by weighing the baby before and after feedings.

There is practically speaking no such thing as bad breast milk. The average analysis of breast milk gives practically no information of value. The percentage of fat, varies much from day to day, from nursing to nursing, and very markedly, depending upon what part of the content of the breast was secured for analysis. For example, the first ounce might contain only 2 per cent fat while the last ounce might contain 7 or 8 per cent.

Physic such as castor oil should never be given to young babies, and very seldom to older ones. The routine order "a dose of castor oil on the third day" is responsible for many failures in nursing and consequently many deaths. Many of the failures in nursing result from overfeeding during the first and second week.

Another common fallacy is that the stomach at different ages can hold only a definite amount of food. The fact is that infants at two or three weeks often get 3-4 ounces during the early morning nursings and late in the day the amount will often diminish to one or two ounces. It is therefore apparent what false information would be gained if the total quantity secreted in 24 hours were based upon one weighing before and after nursing.

The fact that a mother has insufficient milk is not a reason for weaning. Give all the milk secreted and make up the deficiency with properly modified cow's milk. The frequent advice given to nurse the baby two or three times a day during the day and give feedings from bottle between, results in less milk being secreted as the greater stimulus to the secretion of milk is the regular complete emptying of the breasts. The breasts should be emptied and the deficiency made up with properly modified milk. In many cases the proper secretion of milk is not complete until two or three weeks have passed, and often the amount may be increased indefinitely by increased demands. Before deciding to wean a baby always remember that the mortality in bottle-fed children is 6 to 10 times greater than in those fed at the breast.

Regarding the artificial feeding of infants. Any food which has not milk as a base is a dangerous food for infants. Practically all of the dessicated foods are too high in sugar and too low in animal proteid and fat. When breast milk cannot be secured, clean properly modified cow's milk should be the food for infants. After the 6th or 7th month this should be supplemented by some other food.

In the securing of cow's milk great care must be exercised in its production and handling, as milk, of all foods, is the most common carrier of disease.

The contamination comes from two chief sources: 1st, the cows themselves; 2nd, the handling.

Cows suffer from several diseases, the germs of which are given off in the milk and may infect human beings.

A large percentage of the market milk sold in large cities contains tubercle bacilli. Of 107 samples of market milk examined in New York, 16 per cent contained tubercle bacilli, 200 samples of market milk examined in Chicago, 10.5 per cent contained tubercle bacilli.

A disease known as Garget frequently affects cow's udders resulting in abscess formation and the elimination of large quantities of pus and streptococci in the milk.

A streptococus of human origin may readily infect cow's udders from the milker's hands. An epidemic of over 4,000 cases of malignant sore throat occurred in Boston three years ago. The primary source of the infection was from the throat of one of the milkers, in a certified dairy.

It is not improbable that the Bacillus Abortis which produces epidemic abortion in cattle, may be transmitted to women. Work to determine this is under way at the University of Minnesota. That milk is a common carrier of such disease as scarlet fever, diphtheria, measles and typhoid fever has been definitely proven. Two years ago we had an epidemic of 250 cases of diphtheria resulting from the milk being contaminated by a milker with a mild diphtheria. Several small epidemics of typhoid during the past year have been definitely traceable to the milk.

In addition to the chances of contamination from the sources mentioned, the average milk contains a large quantity of filth mostly in the form of cow manure which drops from the udders and flanks of the cow, in milking.

The greatest care should be exercised therefore in securing clean milk from healthy cows free from disease-producing organisms. There is one thing more which is absolutely necessary to make milk safe for infants, and that is either proper pasteurization or boiling.

Pasteurization at 150 F. for 30 minutes destroys all the pathogenic organisms and does not change the milk sufficiently so that it can be detected even by the most fastidious. It does not change the physical characters so that it is possible to say that it is less nutritious than raw milk. Where pasteurization cannot be carried out properly the milk should be brought to the boiling point for a couple of minutes. This will answer the same purpose, but does change the taste somewhat. To obviate any danger of scurvy from giving cooked milk to infants, a few teaspoons of orange or some other uncooked fruit juice should be given daily.

The modification of cow's milk for infants according to definite percentages had its origin in the belief that cow's milk could, by juggling the percentages of the different elements, be closely made to simulate mother's milk. This theory is now known to be fallacious as no amount of modification can transform the milk of one species of animal into that of the other.

Another fallacy was that the proteid of cow's milk was the element from which most of the difficulty arose both in the production of vomiting and in the appearance of curds in the stools. This has also to a large extent been disproven, for although the casein in the milk may in a mechanical way give trouble in passing the pylorus, and appear in the stools in large curds, this may be obviated by boiling the milk or by adding sufficient alkali such as Sod. Citrate to bring the curds into solution.

The fat of cow's milk is the element which gives the greatest difficulty in digestion and it will be found to be the last element to leave the stomach.

The pale hard stool from which infants, fed on cow's milk, frequently suffer, are not as was formerly taught, composed of undigested proteid but to unassimilated fat, largely in the form of calcium and ammonium soap. The pale color is not as was formerly thought, due to the absence of bile, but to the fact that the bilirubin is transformed by the bad chemistry to a colorless salt known as urobilinogen. Children suffering from chronic fat intolerance are usually pale, flabby, and markedly lacking in normal vigor. Such a condition unless corrected frequently leads to the condition known as marasmus or simple atrophy. The urine in these cases usually smells strongly of ammonia, so much so that not infrequently the mother complains that when she changes the diaper the ammonia smarts her eyes.

When such a condition is found to be present the fat should be largely reduced or eliminated for a time and a food given, consisting of a fairly large percentage of starch and sugar; such as malt-soup or the buttermilk formulae.

Instead of the percentage method now rapidly disappearing, it is usually sufficient to give the simple milk mixtures, 1-3, 1-2, 2-3, and whole milk, adding enough gruel and sugar to bring the caloric value to the needs and tolerance of the individual child.

It must be remembered that most of the gastro intestinal disturbances of infants are due to over-feeding. No child should have more than one quart of milk in 24 hours and when it needs more food it should be added in some other form.

In order to know whether a child is being overfed or underfed, every physician should be able to estimate the caloric value of the food. The average text book's presentation of the subject of caloric values is so difficult to understand that it is little wonder the average physician regards it as a problem he is willing to leave to the pediatrist. The estimation of the caloric value of any food mixture is in reality so simple that in one hour I can teach any Junior medical student to reckon calorics with his eyes shut.

The caloric needs of the average infant during the first year is approximately 50 per pound of body weight. This estimate is of course only approximate, but is a valuable check. I frequently see children who are receiving more than twice the amount of food needed, with severe intoxication, as a result of improper metabolism, which requires months from which to recover.

I cannot leave this subject without touching upon proteid intolerance. There are certain children who after eating certain proteid foods suffer a definite train of symptoms. For example, a susceptible child may within a few minutes after eating an egg have intense itching of the skin sometimes accompanied by urticaria, the conjunctivae may be injected, and there may be difficulty in breathing. In children prone to asthma an attack may be precipitated. It is not uncommon that children are intolerant to cow's milk especially those of an exudative diathesis, and it will be found that the tendency to skin eruptions from which some children persistently suffer will disappear when milk has been largely eliminated from their diet. Susceptible children will usually give a skin reaction if the Von Pirquet test is made, substituting the suspected proteid such as egg albumin or milk for the tuberculin.

Concerning the diet for older children after the first year. It is a common fallacy that up to the third year, cow's milk should constitute the largest element of the diet. This is a serious error. Cow's milk was primarily intended for its own young as was the milk of all other mammals. It is fair to assume, therefore, that cow's milk was never intended for human consumption. As far as the writer knows there is no other annimal, except the human, where its young receives milk from the mother after the first year, in fact it is rare that the lactation period exceeds a few weeks or months and the breast milk is early supplemented by other food. That milk is a valuable addition to the diet of most children there is no doubt, but it does not take the place of a mixed diet after the first year. Children who are fed too exclusively on milk are pale, flabby and constipated, and lack the normal vigor of healthy children.

The giving of excessive sweets to children is another common cause of poor nutrition. Children who eat sweets between meals will not eat the proper amount of plain food at their meals, and it is upon the plain food that the proper nutrition depends. The old adage "hunger is the best cook" applies equally to children and adults.

There is no doubt that excessive sweets by their production of acid in the mouth results in the destruction of the enamel of the teeth. That decayed and abscessed teeth are an extreme menace to the health of any individual we are just beginning to find out. Not only is the mastication and assimilation of the food interfered with, but many of the organisms are absorbed directly into the circulation, producing frequently multiple arthritis, chorea, endocarditis, etc. I am convinced from careful observation that many of the cases of tonsillitis in children are produced by direct infection from the teeth.

That adenoids whenever present in sufficient size to obstruct the breathing through the nose, should be removed, goes without saying, but that every tonsil because it is larger than normal should be extirpated I am equally sure is fallacious.

I have rambled along at considerable length presenting these every-day commonplace problems, and I might go on indefinitely, but I will not take your time and exhaust your patience.

I have presented these simple problems, because they are fundamental in the interest of child welfare. They are problems which the great mass of the medical profession have not met, and are now meeting in the best interest of public health, and the future welfare of the nation.

A large part of the cases which come to us as pediatrists are cases which belong to the general practitioner.

We are treating daily many children at the public clinic from fairly well-to-do parents, because they have failed to get results from their family physicians. Most of them come with simple problems in feeding, similar to those I have described.

We are frequently censured by the physicians for treating these cases. We have consistently, for years, referred those cases back to their physicians, only to have them return because the physician did not take any interest in the case, or was content to write a prescription for some worse than useless medicine, without taking the trouble to inquire into the fundamental causes of the conditions for which the patient sought relief.

The practice of pediatrics is not the haphazard affair it was a few years ago, but is based upon as solid a scientific foundation as is internal medicine, surgery or opthalmology.

There are no more interesting problems anywhere to be found in the whole field of medicine, nor any, the proper solution of which are followed by a greater fundamental benefit to humanity.

SOCIETY TRANSACTIONS

SECTION ON PEDIATRICS*

Stated Meeting, Held January 11, 1917.
Dr. Oscar M. Schloss in the Chair

Subacute and Latent Infantile Scurvy; The Cardiorespiratory Syndrome (a New Sign).—Dr. Alfred F. Hess presented this contribution. He stated that previous papers on this subject had established that an exclusive diet of pasteurized milk would frequently induce scurvy in infants. There should, however, be no misconception, it should be well understood that this danger could be readily averted by the mere addition of an antiscorbutic food to the dietary. Probably a large proportion of infantile scurvy was occasioned at present by our pasteurized milk. This scurvy was usually not of the classic florid type. It was less pronounced and obvious, and was consequently the form which was least often recognized. This type might be termed "subacute infantile scurvy," and was distinguished by a group of incompletely developed symptoms which disappeared quickly when orange juice or other specific therapy was given. The child having this type of scurvy might be fairly well nourished, but was pale, with perhaps slight edema of the eyelids. The mother or nurse complained that the child was irritable or peevish, and the appetite had diminished. The gums might show merely a lividity or slight peridental hemorrhage, which on subsequent examination was no longer visible, and might have consisted merely of a rim of crimson edging the borders of the upper gum or perhaps have been situated behind the upper incisor. On closer observation it might be observed that the papillae of the tip of the tongue were markedly congested, and that a petechial spot was to be seen on its frenum, on the pelpebral conjunctiva, or here and there on the surface of the body, more especially where there were erosions, eczema, or other skin lesions. Attention might be called to tenderness of the lower thighs, which in some instances was definite, in others so ill-defined and fleeting that it was impossible to feel convinced of its significance or even reality. There might be slight edema over the crests of the tibia of the kind which did not pit on pressure. The urine was found to be normal or to contain some albumen and red and white blood cells. As described and portrayed elsewhere, the heart might be involved in infantile scurvy; this might be evident to ordinary physical examination as enlargement, especially to the right, and might be accompanied by dullness and diminished breathing posteriorily at the bases of the lungs. This type of enlargement was often well shown in rotentgenograms as a well marked broadening at the base of the heart, at the site of the large vessels. As far as the writer knew attention had never been called to this latter phenomenon. Another phenomenon found present and studied in early cases of scurvy was that of a pulse of over 150 and respirations of 60 per minute. In one instance the respirations were 64, 60, and 64 on three successive days, while the pulse was 124, 141, and 136; in other words, there was a 2 to 1 ratio instead of the normal 4 to 1 pulse-respiration ratio. That this cardio-respiratory syndrome, as well as a mild febrile reaction, was due to the scorbutic condition seemed evident from the sharp drop in pulse and respirations and in the temperature when orange juice was given. The increase in respirations was a polynea rather than a dyspnea. Without doubt this cardio-respiratory syndrome was occasioned by a disturbance of the nervous mechanism controlling the dual system. The fact that these symptoms yielded precipitiously in forty-eight hours to antiscorbutic diet did away with all question of their dependence unop malnutrition or anemia. The phenomenon was clearly neurotic in nature and probably due to an involvement of the pneumogastric nerves. We had therefore one more link of evidence that the nervous system was involved in infantile scurvy, and that this disorder should no longer be regarded as affecting only the bones and blood vessels. The significance of showing that infantile scurvy possessed an aspect which required it to be regarded as a disease of the nervous system was interesting in itself but gained greater importance when it was considered that this association brought it into closer relationship with beri beri, adult scurvy, pellegra, and the ever increasing group of disorders which were classed as deficiency diseases, or according to Funk, "avitaminoses." Dr. Hess pointed out more in detail the similarity of symptoms in these conditions to those of scurvy in reference to the heart, the nervous manifestations, and skin lesions, calling attention to the fact that there was an eczema which developed in infants in the course of scurvy which yielded promptly to antiscorbutic treatment. The condition of latent scurvy constituted a state of malnutrition which developed slowlp as the result of a negative balance of "vitamines." It could rarely be recognized except by the sharp recession of symptoms, stationary weight, pallor, poor appetite, etc., following the administration of an antiscorbutic. The history of a diet of heated milk and lack of antiscorbutic food, considered in conjunction with the pallor and lack of appetite, the increased knee jerks, and perhaps the cardiorespiratory syndrome, might awaken suspicion and lead one to prescribe orange juice, with a view to diagnosis as well as treatment. The result in such cases had frequently been magical. This condition of latent scurvy was probably the commonest type of the disorder, but was frequently passed over unrecognized, especially in the larger cities where almost the entire milk supply for infants was pasteurized. Most infants, happily, were given orange juice by the time they were six months of age, and they might receive a small amount of vegetable or potato before they were much older, so that they were protected from serious harm in this way. But there was no doubt a considerable number who passed through the state of latent scurvy. The lesson taught by these observations was not that fresh milk for infant feeding should not be pasteurized, but that the administration of an antiscorbutic should be begun earlier. There was no reason based on clinical experience which contraindicated the giving of a teaspoonful of orange juice at one month to bottle fed babies, and of gradually increasing this amount to a tablespoonful at the age of three months, and there was, on the contrary, a valid reason for urging the adoption of a prophylactic measure of this kind for infants fed on pasteurized milk.

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*Medical Record.

Dr. L. E. LaFetra said he had been very much interested, both this evening and on previous occasions, in hearing Dr. Hess describe this mild form of scurvy, and he felt that they had learned a freat deal in regard to symptoms which they did not formerly think should be interpreted as scurvy. There was no question but that there was a very mild grade of scurvy that must be present before the more florid type and hemorrhagic symptoms manifested themselves, and having their attention called to these symptoms, particularly as regarded the respiration and pulse, was a very interesting and important matter. Dr. LaFetra said that he had been very much surprised that with the increased use of pasteurized milk there had not been an overwhelming number of cases and a more severe type of scurvy occurring. He presumed this much be because so many children took other food in addition to the pasteurized milk, in the form of orange juice, potato, vegetables, etc. He had not seen so many cases of scurvy during the past ten years as during the previous ten years. There was a time when he thought pasteurized milk should not be given and for years he had advocated only raw milk, but he now felt that some severe septic sore throats might be traced to the use of raw milk and that it was therefore far more dangerous to the baby, and that this danger might be avoided by feeding pasteurized milk and an antiscorbutic. The plan of having certified milk for the great body of our people was impractical, as the expense would be too great, but by keejing in mind what Dr. Hess had said, pasteurized milk might be used without fear of scurvy.

Dr. Hess, in closing the discussion, said that as he had stated in the body of his paper, if these mild cases were looked for we would find a great many more cases of scurvy. During the past month he had seen a considerable number of mild cases. The severe cases were not so frequent as formerly. This was probably due to a number of factors, as the addition of orange juice to the baby's dietary, the fact that even pasteurized milk was not entirely free from vitamines, and the fact that infants were fed more intelligently than formerly. A baby was more likely to get scurvy of a more severe type if he was not correctly fed or if he had had a number of intestinal upsets than if he went along on a normal course.

, Dr. Herman Schwartz said he would like to know in how many cases Dr. Hess had produced scurvy. They had tried to produce scurvy with pasteurized milk; they had produced other things but had not been able to produce even the mild type of scurvy that Dr. Hess had suggested.

Dr. Hess said he had taken this matter up as the National Commission on Milk Standards took the position that pasteurization destroyed no enzymes or chemical constituents of milk, and he therefore thought it ought to be tried out. They had discontinued the use of orange juice in a certain number of cases and a certain proportion of these children developed mild scurvy. The same thing was true of scurvy in children as was true of adult scurvy. Before it was customary to have lime juice on board ships a certain number of men would develop scurvy, while others would not. The same was true of babies; if a number of babies were placed on the same diet, some would develop latent or subacute scurvy and others on that same diet would show no signs of the disease whatever.

Some Remarks on the Mental Therapy of Epilepsy.—Dr. L. Pierce Clark presented this communication. He stated that it had long been recognized that there was a more or less definite type of constitutional make-up in epileptics. The essential defects of instincts were egocentricity, supersensitiveness, an emotional poverty both in amount and degree, and an inherent defect of ability to adavt to the so-called normal social life in its broadest significance. The main defect was an inheritable one. This make-up was the primary or original endowment of the potential epileptic individual. It was only eccentuated and made more obvious by the after development of seizures. Ii was then spoken of as the mental stigma of the disease. The epileptic attacks were not solely responsible for the epileptic deterioration, but the seizures were themselves symptoms and exhibitions of the deteriorating disorder. The seizures did not always indicate the progress and degree of the deterioration in any given case. The precipitation of mental factors that seemed to bring about epileptic reactions in a potential epileptic were types of stress or annoyance which often caused a loss of spontaneous interest, and an intensive regression to day-dreaming, lethargies, and somnolence. The attack occured as the final break of a too severe mental tension and psychologically might be counted as an intense reaction from an intolerable irritation. Sufficient clinical evidence was now at hand to make it possible to outline more definitely the mental therapy of the essential disorder. There was incliuded in the make-up of the potentially epipleptic child instinctive inability to take on the adaptive social training of the normal child in the home and school. This latter defect was shown in the display of rages or tantrums. Such children should have special care from the earliest infancy and particularly by someone especially gifted in dealing with them. Ofttimes this was best done by someone other than the parents. It required great tact to size up the individual conflict of each tantrum episode and to judge how it might be properly handled. At one time the child might be sidetracked by directing his interest into another channel. at another he might be completely ignored throughout the entire tantrum, especially if he wree to observant of the stress his conduct generated in the family. It was important that bribes or rewards be not offered for a restoration of proper conduct. If the child's mind was to be diverted to some other interest, this should always be supplied early and before any severe measures was brought to bear. In the most difficult children it was best to teach the child to place his own inhibition on his bad behaviour. No tantrum should be allowed to pass without a friendly and sympathetic review of all the circumstances which led up to the disorder. Marked emphasis should be laid on the great personal loss the child himself sustained in consequence of his misconduct, since young children had not developed a sense of altruism. Such altruistic motives might be urged later when the child's development warrented this course. In discussing the issues in question with the child plain, simple language should be used, and it was well to realize that this explanatory period was often at hand long before one ordinarily thought it was possible. The writer said he knew of several children to whom these simple talks had been given in their third year with success. In the training of the potentially epileptic child fatigue was to be avoided. Long before the child displayed tantrums one found much slighter but equally obtrusive manifestations of maladaptation to the simple processes of life. Often these children must be slowly and carefully inured to the unpleasant demands of hunger and fatigue, or slowly accustomed to the hampering and unpleasant contact of clothing. The potentially epileptic child should have less insistent lemands placed upon him and for shorter periods of time than other children. His preferences in dress, diet, and the bath should be taken into account in as far as was practicable. An incentive to right conduct might often be implanted by the right kind of associates, and this influence would frequently be found to bear more fruitful results than many and oft repeated injunction by the child's elders. Infantile and child life were not without their stress and conflicts. It was therefore important to vnd out what the child was striving for and his main trends of interest. A system of ethics could then easily be built up around any line of activity the child might select. The incessant clamoring of the child for novelty of interests was not an unnatural demand. Our concern was then not to limit these novelties, but to see that a child should have a thoroughness of experiencing them. The very completeness with which the difficult child might be made to lo this was the safest protection against day-dreams, lethargies, and like abreactions from his work and play leading to boredom and irritability—the forerunners of rages and tantrums. The proper inculcation of a good system of nursery, ethics was by far the most important object in the training of such children. The scholastic training of the epileptic youth must be arranged to suit his peculiar make-up. This school training should be intensely individualistic and very modifiable from time to time. The monotony which the feeble-minded enjoyed in any scholastic training was poisonous to the soul of the epileptic. The latter required novelty and a wide range of educational appeal. Moreover, in a large number of epileptic youths the intellect as such suffered but little or no impairment, and the educational training in such instances needed little else than that which ordinarily obtained for normals, except to also teach adjustment to work and adaptions along moral and social lines. The differences between the feeble-minded and epileptic were far reaching in significance for educators; they should be particularly recognized by those who planned to place the feebleminded and epileptic in one institution. A laisser faire attitude of slightly modifying a feeble-minded school to fit the epileptic should not be allowed to prevail. Much of the routine education was lost to the epileptic youth who had frequent attacks which prevented his consecutive attendance at school and the nature of his attacks added an amount of acute mental degradation which was vere deleterious to his welfare, so that in reality he male very little use of any systematic intellectual training. In those whose attacks were infrequent and who had some intellectual endowment as well as ability to generate and direct and finally spontaneous interests, a system of educational training was most valuable. The colonization of epileptics meant most to these individuals. It supplied an interesting and varied environment, with possibilities of modification from season to season. It was furthermore essential that the education of the school room be an integral part of the occupational life of the epileptic, whether he recovered from his epilepsy or not. For instance, those interested in agriculture should have a system of book instruction and class work that would make for a further elaboration and understanding of all the daily duties grouped around this particular type of interest. Those epileptics who had not been carefully trained from infancy should first have a period of rest with attention to their physical condition. During this time an effort should be made to find the particular interests of the individual. In the absence of a spontaneous interest of the remnants of former ones must be pieced together or new ones induced. This could not be accomplished by living in close contact with the daily lives of the epileptics and assisting and encouraging them to start the cold and uninviting task anew each day. A satisfactory talk with the patient, making his problems clear to him, was the first preliminary to effective work with him. The issues to be met in dealing with the problem of the epileptic could not be solved except by an intense preoccupation in the minutæ of the lives of such persons. By avoiding stressful factors and substituting other lines of activity and interests, one might introduce a mental therapy in many cases of epilepsy which would be of utmost moment.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Infant Mortality in British Columbia.—The Lancet states that in each of the two latest annual health reports of British Columbia the infant mortality is decidedly low, 45 in 1914 and 57 in 1915. Since the province is so extensive, with a population of approximately one person to the square mile, statistics may not be precisely accurate, but deaths are less likely to go unregistered than births, so that the infant mortality will not be less than that shown on the records. In comparison with the annual report for 1911 in England and Wales, Victoria, with a population of 40,000 gave an infant mortality of 49, which Chester (England), with a population of 39,047, gave a corresponding mortality of 109, both in infants under one year; the birth registrations showed 960 for Victoria and 937 for Chester. This marked difference in the death rate is in all probability due to the result of the open country and the moderate, equable climate of the more densely populated regions of British Columbia. In a comparison of the mortality from various groups of diseases in the same countries and time as above mentioned, the common infectious diseases gave a mortality of 2.19 in British Columbia and 7.57 in England and Wales; tuberculous diseases gave 1.28 in British Columbia, with 4 15 in England and Wales. The mortality in British Columbia from diarrhea was 5.8 as against that of 39 in England and Wales.—Medical Record, April 28, 1917.

Diarrhea in Milkfed Babies.—D. Marfan (Archivos de Medicina Interna, January, 1917), states that he gives nothing but boiled water for twenty-four to forty-eight hours in the quantity and intervals suited to the age of the child. When the diarrhea has abated under this treatment he begins to give strained vegetable broth made with potatoes, carrots, turnips, rice, and salt If there still is diarrhea he prefers that the child be provided with a wet nurse and then if necessary he prescribes a mixture of lime water two parts and syrup of rhatany one part of which he gives a coffeespoonful before each feeding. For a week afterwards he is fond of alternating feedings of the vegetable broth with small quantities of skim milk. In children under six months the malt preparations are of service and moderate fever should not prevent the administration of sufficiently nourishing food providing that the bowel movements are not too liquid or too numerous. If the weight can be kept stationary until the diarrheal attack passes over we should be satisfied.—N. Y. Med. Jour, April 28, 1917.

Speech Inhibition in Children.—In the Journal of Abnormal Psychology, of December, 1916, Blanton reports an interesting case of speech inhibition in a child of school age. At home he would talk while playing with his brothers, but at school he would not utter a word. At the dinner table, especially in the presence of strangers, if he desired anything within reach he would not speak, but reach for it, despite his knowledge that it was against table etiquette. With his parents and brothers his tone was full in volume, but in the presence of others he would not speak, even when playing games. His vocal cords and hearing were normal.

As in the case of other children, this boy suffered from a psychoneurosis due to some mental conflict. He was high strung and neurotic, and the inhibition of his speech was merely an accentuation of fear and timidity, which many children suffer when they first leave home for school. He seemed to try to avoid speaking in the presence of those who would inspire respect and a mild grade of fear in children in whom such a mental conflict would not take place. In bed, before falling to sleep, that same child would often sing aloud, and then his voice was full-toned and pleasant.

The author points out that such cases in children should receive more attention from parents and teachers. He asserts that this inhibition of speech is due to repression, lack of adjustment, and mental conflict; and, if not removed, may result later in life in a serious neurosis.—M. L. V., Medical Adviser, April, 1917.

Principles of Early Treatment of Infantile Paralysis.—W. Colin MacKenzie (British Medical Journal, February 24, 1917) lays great stress upon the imperative need for immediate complete anatomical rest of the affected extremities. By anatomical rest is meant the placing and support of the extremity in such a position that all of the muscles acting upon any joint have been passively controlled. For the upper extremity the patient should be placed in bed at once with the extremity in the following position: thumb adducted, fingers slightly flexed, wrist slightly extended, and midway between supination and pronation, elbow slightly flexed, and the arm abducted to a right angle or slightly more. Then a simple splint of iron with straps for the thorax should be applied as soon as possible in order to maintain this position. For the lower extremity both limbs should be rested from the outset to prevent tilting of the pelvis. This can be done at once with the aid of two padded boards separated by a crosspiece, placed behind the knees and up to the middle of the thigh. Later a double Thomas splint should take the place of this temporary dressing, the feet should be slightly raised to rest the iliopsoas, and the knee very slightly supported by a pad of cotton to relax the flexors. The footpiece should be carefully modeled to fit the foot, which should be held close to it by means of an elastic webbing. The patient should be kept in bed on a firm mattress. Later the muscular function of the involved part should be tested very gently, starting from the position of anatomical rest and measuring the amount of voluntary movement which is possible. Then active and passive movement should be begun and increased in proportion to the progress of restoration of function. Each of the affected muscles should be thus trained according to its individual degree of involvement.—N. Y. Med. Jour., April 28, 1917.

Typhoid Fever in Children.—**George C. Sincerbeaux** (N. Y. State Journal of Medicine, March, 1917) states that prophylaxis and sanitation are the most important phases of the treatment of typhoid fever and should include measures to avoid the chief sources of infection, the isolation of patients, adequate disinfection of the excreta, investigation of the sewage, and the provision of a good water supply. The room in which the patient is confined should be cheerful, airy, quiet, and free from odors. Baths and sponges should be given for cleanliness as well as for the reduction of fever. The teeth and mouth should be kept clean. Nothing but sponges should be used for the control of the fever and an ice cap should be used only when the fever is very high. Oil enemas are usually sufficient for constipation. Collargolum or colloidal silver may be given in capsules in doses of thirty to sixty milligrams every six hours, and salol in doses of sixty to 120 milligrams every four hours. An abundance of boiled water should be allowed and the diet should consist of milk, broths, gruel, eggnog, well cooked cereals, orange juice, and home made ice cream containing eggs, milk and lactose.—N. Y. Med. Jour., April 21, 1917.

Effect of the "Movies" on Children's Eyes: How to Protect Them.—Bishop, in the British Medical Journal for February 17, gives consideration to the ill effects on children's eyes from imperfections of those things connected with the moving picture screens. Examinations at clinics seems to show that something relative to the light or perhaps faulty apparatus, or old and defective films are responsible for the failure of children to pass the eye tests. An abstract in the New York Medical Record of March 24th, says:

This is probably due to a condition of fatigue in the children, brought on by frequent and regular attendance at the picture shows. If normal-eyed children suffer, those with defective eyesight will have much more serious results. The best protection for the child will be secured by the following provisions: (1) The reasonable illumination of all parts of the hall not directly beside the screen. (2) The improvement of the movement of the film so as to reduce flicker, and the withdrawal of films immediately they are damaged. (3) An improvement in taking the picture so as to bring the rate of motion of the objects depicted more nearly to the natural. (4) The increase in the number of intervals in the show, and the interposition of exhibitions other than that of the optical lantern. (5) The limitation of shows for children to one hour, and the prohibition of "repeats." (6) The reservation of the children's seats to the "optimum" position in the hall. With such provisions the indulgence in a show once a week should do no harm to the eyes of a normal child.—Indianapolis Med. Jour., April, 1917.

Eighteen Months' Observation on the Mental and Physical State of Children Following the Removal of Tonsils and Adenoids.—Charles J. Bloom (New Orleans Medical and Surgical Journal, April, 1917, p. 695.)

Dr. Bloom reaches the following conclusions: (1) Children exhibiting some alterations in the normal histology of tonsils and adenoids give marked evidences of mental retardment. (2) Rheumatism, syphilis and tuberculosis from hereditary and environmental points of view have but little significance as causative agents of diseased tonsils and adenoids. (3) This series of 57 cases did not exhibit the pathological entities attributable to tonsils and adenoids, namely, endocarditis, myocarditis, rheumatic fever, chorea, etc. (4) In all there were 29 causes for the removal of these glands—the marked improvement was evidenced only in cases where (a) persistent sore throat and tonsilitis with temperature; (b) frequent colds; (c) frequent attacks of suppurative otitis media; (d) mouth breather and suppurative lymph nodes were the factors of their removal. (5) Adenoidectomies should always be practiced where the child is a mouth breather before the tonsils are enucleated. (6) The largest tonsils (by weight) were those removed from patients who previously had measles and scarlet fever; the smallest from children who had mumps and whooping-cough prior to operation. (7) Only one child gave a history of pneumonia before the tonsils and adenoids were removed. (8) No relation between abnormal and diseased teeth on the one hand and glands on the other. (9) Weight Status: The weight curve showed appreciable improvement after ten years of age; gains were noted between six and ten years, inappreciable before this time. Children with diseased tonsils are practically all underweight, namely 3 per cent to 26 per cent. (10) Gratifying results were obtained in 90 per cent of 40 cases where reports and statement were secured and especially marked in cases where frequent colds, tonsillitis (with temperature), and mouth breather were the factors for their removal. (11) Frequent temperature traced to the tonsils and adenoids should be the indication for immediate removal after the acute symptoms have subsided, despite the fact that the child might be between the age of twelve to twenty-four months, respectively; on the other hand, if there is no temperature but the patient suffers from symptoms attributable to tonsils and adenoids, do not remove these organs until the child reaches the age of six years.—Archives of Pediatrics, April, 1917.

The Lowest Infant Death Rate on Record.—The Registrar-general's annual summary of the marriages, births and deaths in England and Wales states that last year infant mortality was 91 per thousand registered births, being the lowest annual rate on record. In 1916, 785,454 births and 508,227 deaths were registered in England and Wales. The natural increase of population by excess of births over deaths was therefore 277,227, the average annual increase in the preceding five years having been 346,119. The number of persons married during the year was 558,454. Calculated on an estimated total population of 35,250,000, the marriage rate in England and Wales during 1916 was 15 4 per thousand, the birth rate 21.6, and the death rate 14.0.

School Children's Teeth.—A recent investigation made by the United States Public Health service in connection with studies of rural school children showed, says an editorial writer in Public Health (Nov., 1916) that 49.3 per cent had defective teeth, 21.1 per cent had two or more missing teeth, and only 16.9 per cent had had dental attention. Over 14 per cent never used a tooth brush, 58.2 per cent used one occasionally and only 27.4 per cent used one daily. Defective teeth reduce physical efficiency. Dirty, suppurating, snaggled-toothed mouths are responsible for many cases of heart disease, rheumatism and other chronic affections. The children are not responsible for the neglected state of their teeth. The ignorant and careless parent is to blame for this condition—a condition which hampers mental and physical growth and puts a permanent handicap on our future citizens. School teachers can and are doing much in inculcating habits of personal cleanliness on the rural school child but this will fail of the highest accomplishment unless parents cooperate heartily and continuously. This is a duty which we owe our children. —American Medicine, March, 1917.

Heart Disease Among Elementary School Children.—John Priestly (British Journal of Children's Diseases, Dec., 1916) asserts that forty per cent of the children attending elementary school show some cardiac abnormality, either trivial or otherwise. In four successive years school inspectors examining approximately 20,000 children annually found that 6.2 per cent, 5.9 per cent, 7.17 per cent, and 7.15 per cent of the children had some heart affection. The group of functional cases is larger than the organic. Among the organic cases those showing a mitral regurgitant murmur are the most frequent, 83.1 per cent. Simple dilatation was present in 0.5 per cent.

Creolin in Scabies in the Infant.—Montgomery (Archives of Pediatrics) says an excellent remedy, especially good in infantile scabies, is Balsam Peru.

Beta-naphthol, as a salve 10-150, is also a fine anti-scabitic, but, unfortunately, one involving the liability of systemic poisoning.

Creolin is prescribed as a salve:

R—Creolin	10.00
Sapo viridis	30.00
Adipis benzoat ad	100.00
M.	

S.—Rub in once a day.

The green soap adds to the penetrating qualities of the preparation, but it is not a necessary ingredient, and may be undesirable as drying and irritating to the tender skin of the infant.

In making use of creolin, however, it must always be remembered that sulphur is the best remedy for scabies, and that creolin really occupies a secondary, altho a very important place.—Amer. Medicine, March, 1917.

BOOK REVIEWS

Dercum—Rest, Mental Therapeutics and Suggestion in Nervous and Mental Diseases, 2nd edition by Francis X. Dercum, M D., Ph.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia; Ex-President Neurological Association, Philadelphia Neurological Society and the Philadelphia Psychiatric Society; Foreign Corresponding Member of Neurological Society of Paris; Corresponding Member, Neurological and Psychiatric Society of Vienna; Member Royal Medical Society, Budapest; Consulting Neurologist, Philadelphia General Hospital. 8-vo. Illustrated. Cloth $3.50. P. Blakiston's Son & Co., 1012 Walnut St, Philadelphia, Pa.

The scope of this work includes as stated in the title—Rest, Mental Therapeutics and Suggestion. It was originally written and appeared as Vol. VIII in Cohen's System of Physiological Therapeutics. The subject matter of the present volume has been largely rewritten, revised and amplified to include the recent advances of our knowledge on the subjects covered. Emphasis is laid upon simple psychologic methods of treatment, such as rest, feeding and psychotherapy. In order to make the principles underlying the application of these methods more clearly understood, the author has unfolded in a systematic manner the problems presented by the exercise of function, rest and the various fatigue states. The author adopts a purely clinical interpretation of the neuroses, a clear comprehension of which is an indispensable preliminary to intelligent and successful treatment.

The author lays stress on the necessity of correctly interpreting simple neurasthenia as a fatigue neurosis and the importance of distinguishing the latter from psychasthenia. He clearly differentiates the line between these affections and hysteria and hyponchondria.

In the treatment of nervous and mental disease the author lays special stress upon physiologic measures; dietetic measures are freely urged in the treatment and in some cases the dietary instructions are fairly well outlined

In the third part of the volume, suggestive therapeutics is presented in detail and its methods described. Full consideration has been given of other special methods; hypnotism, catharsis, psychanalysis, metallotherapy, mind cure, faith cure. Christian Science, mystic and religious methods, generally. The author has succeeded in presenting in one volume a very comprehensive discussion of the treatment of nervous and mental diseases, especially those of a functional character. We can commend the volume.

Diseases of the Stomach, Intestines and Pancreas, by Robert Coleman Kemp. M.D., Professor of Gastrointestinal Diseases at the Fordham Univ. School of Medicine; Gastro-enterologist at the Fordham Univ. Clinic; Consulting Physician and Gastro-enterologist to the Manhattan State Hospital, etc. Third Edition, revised and enlarged. Octavo of 1096 pages, with 438 illustrations. Philadelphia and London; W. B. Saunders Company. Cloth, $7.00 net; Half Morocco, $8.50 net.

The particular feature of Kemp's Treatise, is the detailed presentation of those methods in diagnosis and especially treatment together with the essentials of pathology that are of value to the general practitioner. There is clearness and simplicity of description while the author retains the necessary technical details and scientific accuracy. The third edition is much larger than previous editions, partly from the addition of the new part on diseases of the pancreas, which is very complete, as is noted in connection with acute and chronic pancreatitis.

The following subjects including esophagoscopy, Boas' dry test meal; Chittenden's views on low protein diet, are presented in full; feeding before and after gastro-enterostomy; achlorhydria hemorrhagica gastrica; the treatment of ulcer; acute and chronic dilatation, wherein the obstructive types surgery is urged; enteroptosis, the treatment of which is very complete; tests of intestinal functions, especially recommended where there may be pancreatic disease; senile dyspepsia; acidosis; infection with B. coli which is one of the most noteworthy chapters; paratyphoid and Brill's disease, together with the newer dietary treatment; simple duodenal ulcer, which is entirely rewritten and very complete, and appendicitis and diverticultis which are considered at unusual length

The tables of differential diagnosis introduced throughout the book are of real value while the use of the X-ray illustrations greatly adds to the present edition which covers an entire section embracing gastric ulcer, gastric cancer, duodenal ulcer and gall bladder disease.

The unusual scope of Kemp's Diseases of the Stomach, Intestines and Pancreas, as well as the method of treatment, takes it from the category of works adapted merely to the specialist and makes it a most desirable volume of the shelves of both physician and surgeon. Every practitioner will profit by the author's diligent and intelligent selection of material from the large growing field which he has most successfully covered. A new chapter has been added on Lane's kinks, Jackson's membrane, duodenal dilation, and ileocecal value incompetency. The author is not an enthusiastic advocate of Lane's radical removal of a section of the large intestine. The term "auto-intoxication" now used as a byword to cover a multitude of diagnostic sins, the author prefers to drop and replace with the appellation "sub-infection" and protein absorption. The section on intestinal putrefaction has been considerably enlarged.

The author holds that chronic gastric ulcer is a pre-cancerous condition and should be treated as such (excised) On account of its intestinal complications, typhoid fever is considered in this volume, in the matter of diet Kemp advocates a reasonably high caloric dietary. Vagotonia and sympatheticotonia are graphically described.

The third edition of Kemp's Diseases of the Stomach, Intestines and Pancreas may be recommended as a valuable text book for practitioners and as one of the best works written on those diseases. The book is excellent as regards printing and binding and the illustrations are in keeping with the general high character of the work.

Blakiston's Quiz Compends. Human Physiology, by Albert P. Brubaker, A.M., M.D., Author of a Text Book of Physiology, Professor of Physiology in the Jefferson Medical College, Philadelphia, Pa. P. Blakiston's Son & Co. 1012 Walnut St, Philadelphia. Cloth, $1.25.

This handy little compend is based on the author's large Text Book of Physiology now for the fourteenth time revised and brought up to date. Much new material has been added and the value of the compend has been enhanced. "We know of no series of books issued by any house that so fully meets our approval as these Quiz Compends. They are well arranged, full, and concise, and are really the best line of text books that could be found for either student or practitioner." It is truly astonishing how many most competent and well-read physicians have this series of compends tucked away at some convenient place where they may be consulted and drawn upon in the many moments of doubt which we must meet in the course of our practical medical work.

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VOL. XXIX

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Published monthly by
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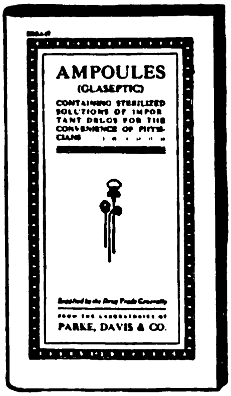
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PEDIATRICS

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EDITORIAL

SUMMER CARE OF FRAIL CHILDREN

During the school period they are kept busy with their mental development and yet some awakening is now to be noticed among teachers as to the needs of physical improvements which should progress *pari passu.* The causes of frailty should be carefully estimated by the physician, and measures adopted to fit varying requirements. Some are inherited and some acquired, and others are both. It is to be hoped that the science of physiology, to which we must chiefly look, will soon throw practical light on the problem of detecting and removing constitutional faults in young infants. Already much has been shadowed forth. Babyhood is certainly not merely a time to be spent in eating and sleeping, though that is of the first importance. The physician must be better taught to note, and be industrious in observing the earliest evidences of development errors. Through the vasomotor mechanism many, if not most, of these defects can be corrected, which if ignored may prove the foundation of serious organic limitations. Treatment has need to consist of much more than an abiding faith in Providence plus compatible environment and proper supplies of food; it must reckon with mechanical stimulation of circulation and the readjustment of organic blood supply. For older children the question of particularized attention to hygiene must be met for each, and the principles require more than mere routine consideration. When the heart is below par in force and regularity, and exertion is followed by evidences of arythmia, pallor and dyspnea, we must ascertain the causes, which may be due more to an undeveloped segment of the cord than to feeble musculature or peripheral disturbance, toxemic or other. Dullness, sloth or apathy may be due to headaches from eye-strain or earaches, or to adenoid growths in the pharynx, or intestinal derangements, liver impairment, and the like, again dependent upon vasomotor incompetency, and more or less removable. Vague derangements of function may evidence early infection from tuberculosis or syphilis or nutritional diseases, as rickets or scurvy. Always, that infant or child who continues to manifest a low degree of vitality and slackness in play, deserves our tenderest care and most diligent investigation. The first safeguard must be to defend it from fussy parental experimentation and spasmodic over-attention. Quiet is the paramount requisite. Next is open-air life—and this does not mean drives and excursions—merely exposure, under reasonable precautions, to sun and light and air. The light of the sun is of first importance, but in certain weather this may be too severe, and the light not directly from the sun is of the greatest value, and for most of the day while awake. During sleep, relative darkness is admissible.

DISTURBANCES OF NUTRITION IN CHILDHOOD

In children lack of vigor, as a rule, indicates a disturbance of nutrition in the segments of the cord whence arises the vascular innervation to the parts or organs most below par. It is of importance to determine accurately which organs are impaired in activity, and supply appropriate treatment which can often be best applied mechanically to the spinal areas through which these can be reached. If the limbs or the heart or the digestive tract are at fault, prompt attention to these will go far toward restoring a balance of vigor to the whole organism. Happily, here are few complications to be met, or old lesions to be reckoned with, in the young. It is unusual to find evidence of antecedent genito-urinary disorders, unless infectious diseases have damaged the kidneys. Again, the ductless glands are rarely disordered seriously, although lack of development of these important sources of vital secretions may exist and the organism may fail to be supplied with the regulative principles by which the function of symmetric oxygenation is maintained. If so, it is vain to expect much improvement by change of air and scene without adopting local measures to induce thorough blood supply to the defective parts. If the limbs are weak, or the skeletal muscles fail to maintain symmetry or alertness of poise, it will soon become ineradicable. The question is: Can these conditions be successfully met and overcome? In my opinion, it is possible to accomplish this in infancy, though the departure from the normal is not then so readily noted until in later years, when through comparisons with normal activities for the age and size, we can determine their nature and extent. Wherever the physician has full access to the nursery, he should make regular and full inspection of the exposed surface of the whole body, and not wait till ailments bring to his attention alterations in structure. A careful examination of the back will give the practiced eye and hand much information. The muscular tonus, or nutrition, the consistence and quality of the tissues in the region supplied by the posterior primary division of the spinal nerves and their analogues in other regions, should make much clear. The hygienic measures which should supplant mechanical treatment consist, in the order of their importance, of the following points. Abundant quiet, no overzealously supplied amusements, but good climatic conditions and opportunities for slow observation of natural objects. Next, suitable food supply, which again is best taken alone or with the nurse and possibly other children; not with the adult members of the family, and never at a large hotel table, at least until strength is restored in sufficient amount to have to waste. Light and air at all times should be too much, rather than too little, though the attempts at hardening the constitution by exposure must be of the slowest and most cautious· Clothing should be rather too little than too much. If quick temperature changes occur they must be met wisely, and especially if the legs are bare, these should receive prompt covering as cold approaches. While in action the less garments which burden the child the better. No clothing should be worn which require to be saved from dirt and dust. The feet should be freely aired by frequent changing of the footgear, and canvas or other permeable material is far better in summer than leather, and to go *barefoot at times is of real value.* The care of the skin is of great importance, and here much bathing is not as good as plenty of friction. If the skin be, as often happens in frail children, dry and harsh, the use of inunctions of cocoa butter, olive oil, or refined lard oil makes for much good. When over-heated by exertion it is of the greatest importance to loosen the clothing and rub the back dry. If the underwear is wet a change is needed.

PEDIATRICS

ORIGINAL ARTICLES

PHTHISIS AND SCHOOL CHILDREN*

BY JAMES KERR, M.A., M.D.
London

The death-rates from phthisis fall with a steadiness and uniformity that shows some continuing cause at work, improving the immunity in this respect throughout the population. Whether it be from the cheapness and excellence of our food supply or from the good sanitation and constant efforts made for social amelioration, the general mortality from tuberculosis stands lower than in comparable populations elsewhere.

The recent Medical Report of the Board of Education for 1915, p. 84, publishes new figures on tuberculosis, which are in some degree applicable to school children, and show that they have been affected by the increase in the tuberculosis death-rates, which, like the general mortality rates, have risen under war conditions. The cause there suggested, alteration in population by selection of healthy males to go abroad, would hardly affect earlier ages in the community, and it is probable that the rise in cost of food, indirectly affecting nutrition in the early days of the war, is the chief factor in the situation, although lighting orders and closed rooms have also been taken into account. Since 1865, when the phthisis death-rate was the same for either sex, there has, however, been a steady fall among females at all ages compared with males. Chronic industrial fatigue, a very real condition in spite of Dr. Hunter at Newcastle expressing his inability to suffer in this way, is probably the chief factor in maintaining the high rate among adult men.

There is a curious exception which the writer noted twenty years ago (Journal of the Royal Statistical Society, 1897, p. 625) in that the proportion is reversed at school ages, when the diminution is least among girls.

Since then returns have continued to emphasize this trend. Through the kindness of Dr. T. H. C. Stevenson the returns for 1901-10 have been added to those hitherto published.

*School Hygiene, London, Feb., 1917.

PHTHISIS DEATH-RATES PER MILLION LIVING AT EACH AGE
(England and Wales)

Period	0—		5—		10—		15—		20—		25—		35—	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1851-60	1329	1281	525	620	763	1293	2399	3516	4045	4302	4028	4583	4016	**5197**
1861-70	994	951	433	479	608	1050	2196	3121	3894	3972	4111	4395	4170	**3909**
1871-80	787	753	342	377	483	851	1685	2409	3109	3154	3713	3556	5137	**3412**
1881-90	553	518	254	328	344	702	1293	1809	2341	2326	3037	2801	3588	**2740**
1891-00	441	385	174	239	234	502	995	1290	1887	1591	2369	1923	3095	**2121**
1901-10	351	304	137	194	171	396	756	988	1521	1235	1966	1475	2446	**1551**
1911-14*	258	231	123	166	173	397	719	979	1329	1178	1658	1265	2098	**1302**

The following are the phthisis rates per million living:

England and Wales	0—		5—		10—		15—		20—		25—		35—	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1911	293	288	137	181	170	408	767	997	1394	1220	1728	1342	....	....
1912	228	214	123	155	158	363	704	994	1322	1184	1712	1272	....	....
1913	269	224	118	157	171	400	661	935	1247	1113	1583	1209	....	....
1914	245	200	113	169	187	417	744	988	1319	1192	1611	1240	....	....
1911-14	259	231	123	166	173	397	719	979	1329	1178	1658	1265	2098	**1302**

The mortality rates for phthisis 1901-10 over that of fifty years before, 1851-60, shows a reduction of over 60 per cent at the ages given above, and is greatest at school ages compared with men. The reduction steadily becomes greater among females, but if school girls are compared with boys their reduction in mortality becomes proportionately less year by year, and the steadiness with which this can be noted since 1851 shows some constant factor at work during school life, more marked since the date of the Education Act in 1870, and differentiating between boys and girls. The variation can be made most evident by setting out the female rates of mortality when the corresponding male rates are taken as 100.

---

*The rates for the years 1911-1914 can now also be calculated from the Registrar-General's Tables, where not actually given, and although a short period like this shows such wide variations that it should not be compared with the effects of a decennium, yet it almost seems from the mode of change at all ages that a halt has been established in the continuous sex differentiation.

FEMALE DEATH RATES FROM PHTHISIS
(Corresponding Male—100)

	0—	5—	10—	15—	20—	25—	35—
1851-60	96	118	170	146	106	114	104
1861-70	96	110	172	142	102	107	94
1871-80	96	110	176	143	101	96	82
1881-90	94	129	204	140	99	92	76
1891-00	87	137	214	130	84	81	68
1901-10	86	142	232	130	81	75	63

This table shows that in the five years before school age and the years after school age the mortality rate from phthisis among females is continually decreasing as compared with males, while at school ages the mortality among boys goes down progressively faster than among girls.

Somewhat similar results have been noted abroad. Prof. Y. Ito found an enormous proportion of tuberculosis among Japanese school children, but most among girls. Wimmenauer, of Mannheim, using tubercular tests, found 52 per cent boys and 61 per cent girls giving positive reactions in elementary schools. Prof. Dr. Kirchner, of Berlin, called attention in 1902 to the fact that girls at school ages did not show any reduction in tuberculosis mortality like other sections of the population. Virchow somewhat later stated that of the deaths of children aged 5—10 years, there were 7.98 per cent boys and 11.27 per cent girls due to phthisis, and at ages 10—15 these proportions were raised to 18.85 per cent boys and 29.99 per cent girls.

Grancher in 1904 found 14 per cent of the boys and 17 per cent of the girls with pulmonary tuberculosis in Paris elementary schools examined. For some undetermined reason school returns in England, when they distinguish the sex, appear to show more boys than girls affected, although the recent tuberculosis notifications show exactly the opposite.

There appears, therefore, no doubt that this relative want of improvement in school girls as compared with boys is real, that it exists in other countries than our own, and that there is some cause which ought to be removable.

The distinct and progressive difference is shown in phthisis mortality, and although small in actual amount it represents a considerable difference in vitality and preventable illness.

The halt in the rate of progress shown in the last five years may represent a real change due to the altered ideals creeping into school life. The school, from the hygienist's point of view, especially at earlier ages and in the infants' departments, is very different from what it was when the doctor began inspecting in 1893. The last half dozen years have seen, if no considerable direct advance in school hygiene, yet an enormous widening of the areas affected by it, so that the conditions of girl's education may be approaching the more healthy natural conditions under which boys develop. Rule of thumb in education is being steadily displaced by scientific method. It is being realized by public bodies that expenditure on feeding, schooling, and the health of children, is of greater national importance than the saving of rates, and in the past ten years there has been much greater expenditure. Already it is possible that this is having an effect on the phthisis statistics. The new legislation on tuberculosis should still further alter conditions, but behind all will remain the necessity for both boys and girls approaching a natural life instead of the cloistered life of the old school-room. The teaching of this apparently trivial little conundrum in statistics is summed up by the writer elsewhere on "The Open Air,* viz.: "The whole future success of elementary education as a physiological process depends on approximating the child's health to that in the best type of open air school. Abundant fresh cool air is needed, but the child does not live on air, so good food—as much as the child will take—is wanted, and, in order to get full benefit from this, plenty of space for exercise, running, jumping and games is required, with some restriction in purely literary work before the age of ten or eleven, and considerable shedding of the educational lumber that still chokes time tables. Lastly, and perhaps most important for the growing child, a minimum of one, better one and a half, hours of rest or quiet sleep should be interpolated in the working day. Many accessory provisions generally neglected, such as bathing, suggest themselves, but the above are the fundamental requirements which should become tests of good educational provision in the next decade."

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*Newsholmes' School Hygiene, 1916.

PYLORIC OBSTRUCTION AND THYMUS DISEASE IN AN INFANT*

BY ROBERT L. PITFIELD, M.D.
Philadelphia

In the following history of Baby G. it will be seen that three hyperplasias, perhaps all manifestations of a common disease process, interfered in a serious way with his health and threatened his life. A large adenoid so obstructed his breathing that his nutrition was seriously delayed; a hypertrophic pyloric obstruction all but starved him to death, and an enlarged thymus gland on several occasions very nearly strangled him.

Case.—Baby G. was born three weeks prematurely, as were his brother and sister. His father is a healthy man and his mother fairly so; she has at times signs of marked nervous irritability. No syphilis, tuberculosis, or indeed any other factor of etiological importance was present in the history. The child was bottle fed. When but a few days old mere stretching of the foreskin caused him to become apneic and cyanotic and he was revived with some difficulty. The same thing happened a few days later while being bathed. This was the first appearance of thymic disease. When he was two weeks old an officious nurse raised his milk formula from F. 2.50, S. 6, P. 50 to something equivalent to F. 7, S. 6, P. 1.50. He then began to vomit persistently and he rapidly lost weight. At the age of six weeks he vomited all of his food, passed but little urine, and his stools were very small, owing to the persistency of the vomiting, the reversed peristalsis in the stomach and the presence of a small tumor in the right hypochondriac region, a diagnosis of pyloric stenosis was made. He was operated on quickly and easily by Dr. J. B. Deaver and did very well for a week, retaining some of his food and passing more urine and larger stools. The stitches were removed at the end of a week, the wound opened and all of the intestines were extended. These were caught in a sterile pad, the wound resutured and the child recovered and remained fairly well until four months old. At this time on acquiring a slight cold, stertorous crowing breathing developed with some cyanosis. In a few days marked dyspnea supervened. Catarrhal pneumonia was found to be present in both apices. From the fact that obstructive breathing was present with a harsh sibilant note in the trachea just beneath the sternum and because of the recurrence of the cyanosis in slight exertion and from the fact that dullness to the right and left of the manubrium was found, a diagnosis of thymic enlargement was made. Immediately at the suggestion of Doctors Graham and Fussell he was taken to a hospital and a massive dose of X-rays (twenty milliampere minutes) administered over the sternum. At once respirations fell from fifty-eight per minute to twenty-eight and the cyanosis disappeared. A fit of coughing the next day precipitated other attacks of dyspnea, apnea, and cyanosis, and the child very nearly died, being revived with artificial respiration and oxygen. Daily doses of X-ray were given for a week and he was removed to his home. For two months at irregular intervals massive X-ray doses were given with a Coolidge tube, whenever thymic attacks appeared.

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*N. Y. Medical Journal, May 26, 1917.

Two sheets of aluminum foil as a filter were interposed and the lungs were carefully screened with lead foil at each treatment. Great improvement followed and thymic attacks disappeared for eight months only to reappear after an operation for adenoids, when a severe and life jeopardizing attack lasting about eight hours all but killed the child. The operation was done with great skill and rapidity without a general anesthetic by Dr. F. R. Packard, morphine and atrophine as safeguards being employed in lieu of ether. Five minutes after the child was taken from the operating room the thymic attack commenced, followed by edema of the lungs. Oxygen and mouth to mouth insufflation finally rescued him from what seemed a moribund condition. His pupils dilated and he was apneic, pale and cyanotic and apparently lifeless. He finally recovered, one X-ray treatment was given, and in a week he went home. He has gained about five pounds in two months since the adenoid was removed and is up to weight, being about twenty-two months old and weighing twenty-six pounds.

In all 275 milliampere minutes in X-ray treatments were given in four months time. Each application of the X-rays relieved the dyspnea at once, but each treatment was followed by nausea and vomiting the next day. Thymic attacks came on often whenever there was a fresh snow fall.

Edema of the lungs, according to many writers, is common in thymic disease. Probably the proximity of the vagi to the enlarged gland has something to do with the edema.

Pressure by clamps or sectioning the vagi will produce edema in the lungs of dogs. The X-ray treatment, acting immediately and so specifically, in this case I believe more than anything contributed to the recovery of this child from the thymic disease.

It seems that with the most malign cunning all the manifestations of the hyperplastic disease were placed just where they could best obstruct highly important and vital actions and thus jeopardized the life of this child many times in divers ways.

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THE DIAGNOSIS OF ACUTE OSTEOMYELITIS*

BY W. BURTON THORNING, M.D., F.A.C.S.
Houston, Texas

The following case served to again call my attention to the fact that we frequently fail to recognize acute osteo-myelitis as promptly as we should:

Case History.—A child of five years had been ill, three weeks before, with a tonsillitis, but had apparently made a good recovery and was playing about as usual.

One week before I saw her she fell from a porch swing and sprained her ankle. The injury appeared to be trivial, as she very quickly resumed her play.

That night she awoke crying with pain in the ankle, which the mother bandaged after applying a liniment. She slept at intervals the remainder of the night, but in the morning she had fever. The ankle was swollen and the pain seemed worse. Accordingly the doctor was summoned. He made a diagnosis of sprained ankle, applied antiphlogistine and gave some Dover's powder for pain.

On his evening visit of the same day, 32 hours after the accident, he found the child acutely ill. Her rectal temperature was 104½ F.; pulse 150; she was delirious, but apparently suffering great pain. The ankle was badly swollen, as was the lower third of the leg, in which region the skin was very much reddened. At this time a diagnosis of acute rheumatism was made and salicylates were administered in addition to the treatment already instituted. On the third day the pain was very much less severe, the temperature had subsided somewhat and the generally improved condition was attributed to the salicylates.

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*Read before the Section on Surgery, State Medical Association of Texas, Galveston, May 11, 1916.—Texas State Journal of Medicine, April, 1917.

The fourth day she was still more comfortable but complained of a very tender area just above the inner malleous. On more careful examination most of the swelling was found to be at this point, and it was thought fluctation could be detected. Accordingly it was incised and a quantity of pus evacuated. Two days later a skiagram showed extensive necrosis of the tibia, nearly the entire shaft being involved.

I was then called in consultation, but advised that nothing be done, further than to provide adequate drainage for the shaft of the tibia. It will be many weeks, perhaps several months, before the periosteum can form an involucrum to completely surround the sequestrum and before nature separates the dead from living bone.

While contemplating the unfortunate result of a delayed diagnosis in this case it occurred to me that the majority of our diagnostic errors are sins of omission, the results of insufficient study or incomplete physical examinations. The science of medicine is too inexact to exclude errors, but we should strive to make as few as possible and be able to present a reasonable excuse for those we cannot escape.

In looking over my records I was struck by the number of times an acute osteo-myelitis had been improperly diagnosed rheumatism. Our conception of rheumatism has undergone some very radical changes in the past few years, with the result that we no longer consider all acute joint affections as rheumatic in character. In my opinion we should limit our diagnosis of acute rheumatism to those cases which we were formerly taught to consider rheumatic fever; in other words to the acute infection which results in multiple arthritis, fever, sweats and a tendency to complications like endocarditis, etc., and which is now very generally conceded to be due to streptococcic infection.

The arthritis which occurs as a complication of a Neisserian infection has a preceding history and clinical findings that should permit of few errors in its diagnosis. The single joint affections due to other micro-organisms are now looked upon as being due to metastasis from a septic focus, perhaps remote.

The chronic affections like arthritis deformans, the various forms of bursitis, etc., are hardly to be confused with acute surgical conditions, hence will not enter into this discussion.

The pathology of acute, suppurative osteomyelitis, as laid down in the text-books, appears somewhat elaborate and complicated, but if we reduce it to its simplest terms and definitely fix in our minds a few points, we need never go far astray in our diagnosis. I do not believe the so-called "idiopathic" or "spontaneous" variety exists, consequently I make the statement that it is always the result of bacterial infection. The organism most frequently present is the staphylococcus pyogenes aureus and it is to the type of disease produced by this organism that these remarks apply. Mixed infections are fairly common. We also see occasionally cases where the streptococcus is the prevailing organism and an occasional case due to the colon bacillus, typhoid bacillus and pneumococcus. Very rarely a tuberculous osteo-myelitis has an abrupt beginning, but it is the exception that proves the rule.

If we accept the theory that osteo-myelitis is always hematogenous in origin we must seek the etiologic factors in some primary focus elsewhere in the body. When we are alert in our history taking it is truly surprising how frequently we will find that two or three weeks previously there has been an attack of influenza, tonsillitis, bronchitis, or perhaps an infected ingrowing toe-nail. With such a wide range of possibilities I believe it more rational to assume that we have overlooked a possible source, than to conclude that a given case has occurred spontaneously. We know, as a clinical fact, that sometimes for weeks after certain infections, various microorganisms circulate freely in the blood stream and, unless in overwhelming numbers, produce no definite symptoms. Once they lodge in a medium suitable for their propagation, however, trouble very quickly ensues. Why they so frequently lodge in the epiphyses and metaphyses of long bones is more or less problematical, but I am inclined to accept the theory that it is because of end-arteries in these regions. As an exciting cause we very frequently have exposure or trauma in some degree. only slight, perhaps, but sufficient to lower the resistance in a localized area.

If we accept this theory as a rational explanation of the etiology, it is a perfectly simple matter to build a pathology upon this foundation. If we admit that a septic embolus has lodged in the end-artery of a long bone what would be the logical, even inevitable, result? A strictly localized abscess which, because of its bony covering, follows the lines of least resistance and rapidly extends through the marrow, often the entire length of a long bone, before it can make its way through the pulp canals to the surface and appear beneath the periosteum. The next step in the process is the burrowing of the pus between the bone and the periosteum, elevating the latter, sometimes in a few hours, over a wide area before it perforates into the cellular tissue beneath the skin. The bone thus deprived of its blood supply from both the marrow and periosteum, very quickly becomes necrotic. This, in a few words, is what I believe to be the etiology and pathology of acute suppurative osteo-myelitis and, of a correct intrepretation, certainly has the virtue of being easily comprehended. If correct, and clinical observation indicates that it is, we can very readily see why it becomes of the utmost importance to make a correct diagnosis and institute proper treatment at the earliest possible moment·

I once heard the late Maurice Richardson say, that "Any man with a jack knife, an ordinary carpenter's gimlet and the courage of his convictions, can cure any case of acute osteo-myelitis." I believe this is literally true, and if we have a reasonably clear conception of the pathology of this condition we can readily see why it should be true. Pus under tension is the pus that does harm and if the tension is relieved further destruction of tissue ceases. As an acute osteo-myelitis is merely a strictly localized abscess with a bony covering, in addition to soft parts, the treatment is comparatively simple.

In differential diagnosis between rheumatism and osteo-myelitis we are confronted by almost identical symptoms: pain is usually severe in both, temperature high, tenderness marked and the white blood count increased. In rheumatism we commonly find more than one locality involved, in osteo-myelitis it is uncommon. In osteo-myelitis white blood cells average 25,000 to 40,000; in rheumatism the average is lower. In the ordinary case therefore, a correct diagnosis very largely depends upon the correctness of our observation in physical examination. If all cases of rheumatism presented multiple joint affections there would be little difficulty in recognizing it as such. If all cases of osteo-myelitis began in the middle of the shaft of long bones our mistakes should be few. Unfortunately, however, we find in actual practice that such is not the case. Not infrequently we find only one arthritic joint and not so very rarely do we find multiple foci in osteomyelitis; furthermore, the beginning of the process is almost invariably at one end of a long bone, instead of the middle of the shaft.

The history of the onset of pain is suggestive. In osteomyelitis it is usually abrupt and while it grows steadily worse until it perforates into the cellular tissue, it is usually severe from the first. In rheumatism we often find that the onset is more gradual and in the average case is less intense.

The first and most important point to remember is that in rheumatism the lesion is in the joint; in osteo-myelitis it is not; it is either above or below. In rheumatism inspection shows the tissues around the joint to be puffy and swollen and often reddened; in osteo-myelitis there is no redness and no swelling. (These remarks apply to the early hours of the disease.)

On palpation we find that the capsule of an arthritic joint is tense and very often fluctuation can easily be made out. The point of greatest tenderness is directly over the line which intersects the articulating surfaces. The superficial tenderness is nearly or quite equal to that caused by firm pressure. In osteo-myelitis, in the early hours, palpation reveals nothing; later, when the pus begins to find its way beneath the periosteum, the point of greatest tenderness and swelling will be found, not directly over the joint, but to one side. At this stage the superficial tenderness is slight or absent, but steady, firm pressure, bringing the soft structures into close apposition with the bone, produces a peculiar sickening pain, which is excruciating. Later, when the pus has perforated the periosteum and appeared beneath the skin, palpation reveals the same condition as is found in any superficial abscess.

The pus of an osteo-myelitis sometimes perforates into a joint and produces all the symptoms of a septic arthritis, but it never occurs on the first or the second or third day, consequently, unless the patient delays in calling a physician, it should never occur at all.

Manipulation of an arthritic joint greatly increases the patient's distress; even jarring of the bed is sometimes sufficient to provike severe spasms of pain. Immobilizing such a joint usually affords relief. In osteo-myelitis slight movements of the adjacent joint do not materially add to the discomfort and immobilization has no favorable influence over the pain·

I do not wish to be understood as laying down hard and fast rules for differentiating these two conditions, as it would be quite impossible to do so. These observations are only general and I am aware that exceptions can be taken to all of them. Nevertheless, if they will serve as suggestions only, they may help to make mistakes in diagnosis less frequent.

DISCUSSION

Dr. J. E. Thompson, Galveston, said: The diagnosis of this condition is usually very easy. In the large majority of cases, it can be made from the subjective symptoms. In looking over carefully taken histories of cases, one is struck by a similarity in the symptoms as to acute onset, sudden pain and high fever. If added to the subjective symptoms local or objective symptoms, such as tenderness and edema, are present, the diagnosis of osteo-myelitis is certain.

Although the sudden nature of the onset is the rule, one meets with cases of staphylococcic infection of the bone marrow which are more or less chronic from the outset. It is by no means a rare thing to find that the symptoms come on very slowly and insidiously, reaching their maximum at the end of five or six days; but even in these cases, a combination of subjective and objective symptoms will carry us to the right conclusion.

When the diagnosis is made, there should be no procrastination in the matter of treatment. Immediate operation should be undertaken· An incision should be made down to bone over the infected area, and under no circumstances should we stop short of the marrow cavity. Even if pus is found between the periosteum and bone, the operation should be continued until the marrow cavity is thoroughly exposed. Primary, acute, suppurative periostitis is a very rare condition, found usually in pyemic conditions, and is not associated with such acute, severe symptoms as acute-myelitis. If operation is undertaken early and the marrow of the bone is exposed it will be found to contain inflamed foci, and occasionally pockets of pus. One should never expect a large pus collection in the early stages. A drop or two of pus will suffice. In many instances, one sees nothing but infiltrated, inflamed bone marrow. In old-standing cases there will be numerous foci present in the marrow.

We have a specimen in the Museum of the University of Texas, which shows the marrow of the shaft of the tibia studded with numerous separate foci from end to end. I have often evacuated three or four separate foci from the marrow cavity of a long bone. In such cases, the whole marrow cavity must be obliterated and a drainage tube inserted into the cavity thus formed. One end of the drainage tube should come out above, near the epiphyseal line or near the epifocus and the other end below at the lowest point of infection.

Dr. P. D. Spohn, Corpus Christi, said: There is no class of cases where delayed diagnosis is more dangerous. Follow the history closely and do not get confused with rheumatism. The disease usually starts abruptly with a rigor, followed by a high fever and severe pain in the limb. The fact that the interarticular portion of the bone is affected, and not the articular, should lead us to differentiate from acute rheumatism. The pain in osteo-myelitis is usually so severe the child screams whenever the limb is touched or the bed moved. The treatment in surgical ab initio, and he who temporizes with fomentations, embrocations and poultices is exposing his patient to untold danger. If you do not find pus the first puncture, repeat until you do find it.

Dr. A. Jacoby, Dallas, asked the author to please state his position in regard to the value of the leucocyte count in the early diagnosis of oseto-myelitis and also in the differential diagnosis between it and acute articular infections.

Dr. T. H. Harrell, Gonzales, said: This paper illustrates a common oversight in surgery. Procrastination in the treatment of osteo-myelitis always means loss of bone and may produce a life long cripple. Heat increases pain in bone; in joint infections it adds relief. Cold relieves pain in bone, but does not in joint infections. It is better to make an exploratory puncture in bone and not find an infection than to let one go undiagnosed.

Dr. Thorning, in closing, said: I am glad that some one called attention to the history of a chill being of diagnostic importance. This, however, is contrary to my experience. Many of my cases have occurred in children too young, and many times too ill, to give a correct history. If a chill had occurred it was overlooked by the parents. I do not argue that a chill is actually rare, but that a history of it is often unobtainable.

In answer to Dr· Jacoby's question, I do not attach any particular significance to the leucocyte count; I regard it only as confirmatory evidence. In my series I am certain the total white count has averaged at least 10,000 higher and the polynuclear percentage from 10 to 15 higher in osteo-myelitis than in acute joint conditions.

My paper was limited strictly to the question of diagnosis and did not include treatment. However, as the question of treatment has arisen in the discussion, I will say that if the diagnosis is made early the treatment is comparatively simple and almost certain of results. In adults it can very well be carried out under local anesthesia; in young children a general anesthetic is generally advisable. An incision is made over the suspected area down to and including the periosteum; the cortex of the bone is then drilled, and if necessary for free drainage a portion is removed. Failure of the pus to immediately appear does not necessarily mean that the diagnosis was incorrect; we may have just missed the pus pocket and a few hours later we may find the dressings saturated with pus and the pain entirely gone.

The point in the treatment to be emphasized is this: If we suspect osteo-myelitis strongly enough to warrant making an incision we are not justified in stopping short of drilling the cortex of the bone.

GANGRENOUS APPENDICITIS IN A CHILD*

BY R. H. DUNN
Assistant Surgeon, San Francisco Hospital

K. D., age 3 years, was taken ill December 15, 1916, with severe intestinal pain, with fever, after the ingestion of more or less peanuts. The parents, supposing the child had partaken of them too freely, treated him with purgatives. After several days of this treatment, with no improvement, the parents sent for me on December 19. I found the child suffering much pain, his right leg flexed upon the abdomen, pulse 130, temperature 103 F· Palpation revealed abdominal tenderness, more particularly over the region of the appendix, although the right rectus muscle was not particularly rigid.

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*Pacific Medical Journal, May, 1917.

I diagnosed the case as one of appendicitis and advised immediate operation, to which the parents demurred. They wanted time to think it over. They could not believe that such a young child was in need of such radical treatment. Realizing the gravity of the case, I suggested consultation. Dr. Francis F. Knorp was called and he concurred in the diagnosis and advised immediate operation. The same afternoon the child was removed to St. Joseph's Hospital and the abdomen opened through the McBurney incision. The appendix was found to be gangrenous its entire length, bound down to the brim of the pelvis and pointing to the left. A drainage tube was inserted and the child made an uneventful recovery, although fever persisted for almost three weeks.

I do not think that the eating of peanuts had anything to do with the production of appendicitis in this case, but that it was merely coincidental. While the vast majority of appendicitis cases in children are not as serious as was this case, and nearly all of them tend to rapid recovery, it raises the question as to whether there are not many more cases of this disease occurring in infants which are treated by the parents, as was this case, for supposed indigestion due to the eating of candies, fruits, nuts, etc. In obtaining a history of this kind it certainly is the duty of the physician to make sure that the patient is not suffering from appendicitis, or other serious abdominal condition; otherwise one is apt to treat the coincidence rather than the real condition.

SOCIETY TRANSACTIONS

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK*

Section on Pediatrics

Some Aspects of Internal Hydrocephalus.—Dr. Carl G. Leo- Wolf of Buffalo read this paper, which was based upon the report of two cases. The first baby, he stated, was born July 9, 1915, and did well until December, 1915, at which time he was taken ill with convulsions, high fever, and what the mother described as a cold. The family history was negative. The Wassermann was negative. The convulsions had become more frequent of late, as many as ten occurring in twenty-four hours. Lumbar puncture showed a clear fluid under high pressure. Fifteen c.c. was removed for bacteriological examination, which was negative at different times, containing from eight to twelve cells. He remained in the hospital under treatment for five weeks. Since that time his mother had brought him when she thought from his increased restlessness that he might have another convulsion for lumbar puncture. The child had an occasional convulsion, but had gone once as long as two weeks without any. Up to March 1, 1917, nineteen lumbar punctures had been made, of which four were unsuccessful; at the other fifteen, 240 c.c. of spinal fluid in all were removed. The second patient was born September 29, 1914, and had likewise a negative family history until December, 1915, when she had a fall downstairs after which she had convulsions, first daily, since more rarely. She was first seen by the speaker on November 24, 1916, at which time she was having a convulsion about every three weeks, the convulsions being preceded by restlessness and irritability. Physical examination was negative, Macewen's sign present, patellar reflexes exaggerated, both fontanels closed. Lumbar puncture yielded 13 c.c. of clear liquid under high pressure. In this case six lumbar punctures had been made, removing in all 150 c.c. of fluid, which showed a cell count of between 110 and 270 per cm. The bacteriological examination was negative; the Wassermann negative; the blood showed

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*Special Report to the Medical Record.

6,600 leucocytes. During her stay in the hospital it was noticed that her head would droop suddenly several times a day and that she put her fingers in her ears several times a day, more so before a convulsion. Dr. Leo-Wolf regarded Case I as due to an acute attack of encephalitis and Case II as due to a traumatic encepalitis. In both cases the foramena Monroe and Magendi remained open, thus influencing the favorable prognosis and the evident result of the therapeutic measure, namely, lumbar puncture, which in this class seemed to him to offer the only chance of ultimate and permanent recovery.

Practical Infant Feeding—Dr. J. Roberts Johnson of Syracuse presented this communication. He emphasized the importance of maternal nursing and stated that a large percentage of mothers could nurse their babies if sufficient effort was made before weaning. Nothing necessary to goood health and digestion need be omitted from the mother's diet. Too much food and especially liquid foods might defeat their purposes. Outside of three full meals a day and cow's milk, one quart in twenty-four hours, given in any convenient form and with meals; he recommended no galactogogues. Gruels, and especially cornmeal gruel, had been given with benefit. Bitter tonics and iron might be indicated in cases n which there was a loss of appetite and anemia. The giving of drugs, glandular tissues or milk injections had succeeded but temporarily. Education of the expectant mother on these vital points was receiving wide attention and with encouraging results. Practical infant feeding meant a method sufficiently simple to meet the needs of the growing infant yet so simple and easy of combination that the intelligent mother could understand. Percentage feeding was impractical for the masses of the people. Based upon a considerable experience and increasingly satisfactory results, the essayist had used whole milk, diluting it with water in accordance with the digestive capacity of the infant, and added sugar. They no longer believed the protein was the chief offender in gastrointestinal disturbances, but were agreed that fat and sugar were chiefly at fault. The normal infant required at a meal one or two ounces more food than it was months old, up to eight or nine ounces. The normal infant should gain from five to eight ounces a week. During the second six months the gain was steadier. The number of ounces of whole milk needed was practically twice the number of pounds the baby weighed. This was on the assumption that a four per cent. milk was used.

The sugar demand was fairly fixed, ranging from one-quarter of an ounce in the young infant to one and one-half ounces after three months of age up to ten or eleven months, when full milk was given and no sugar added. In the infant as in the adult the definite amount of food needed was best expressed by calories. An ounce of whole milk was equivalent to twenty calories. An ounce of any kind of sugar was equivalent to 120 calories. The average child under four or five months required from 45 to 55 calories per pound of body weight. The same child if very fat required only 40 calories, while if the same child was emaciated, 60 to 65 calories might be needed. In preparing the food for twenty-four hours, first determine the caloric needs of the child, judged by its physical condition and history of digestion. Knowing its weight in pounds, multiply this by the calories. Subtract the sugar calories from the whole number needed and the difference in milk calories, which if divided by twenty, would give the number of ounces. Water was then added to give the required quantity. There was no hard and fast rule as to how many calories a baby needed to make a normal gain. The fat, quiet baby needed less than the atrophic, restless one. The reckoning of calories, therefore, was to act solely as a guide to check against overfeeding in the total. It did not add to the makeup in the various ingredients of the formula. Few babies could digest more than a five per cent. fat, and three per cent. was a safer amount. Fat was given with the mistaken idea that it overcame constipation and for the purpose of causing a rapid gain in weight. Fat mixtures should not be given babies having acute indigestion. For a number of years the writer had used malt sugar in the form of dextrimaltose almost exclusively, during the first six months. Later, when the digestive capacity and gain was steadier, cane sugar might be used with equally good results. Practically all artificially fed infants were constipated and malt sugar was helpful in relieving this condition. Likewise, if the fat tolerance was low one could give an increased amount of sugar. If development was slow one could occasionally give protein above the normal amount. Condensed milk might sometimes be used when other foods had failed. The usual dilution was usually one part of Eagle Brand milk to nine parts of water, which gave a mixture of practically one per cent. fat, three-quarters per cent. protein and five and one-half per cent. sugar. The low fat content in this mixture might explain our failure with the modified cow's milk formula. Most infants, breast and bottle fed, took larger quantities of food than the standard text suggested. Some infants grew normally on one-half to one third that required by others. As a rule, no infant should be fed the minimum food even if it appeared healthy. If the physiological reactions were normal it was better to over than to underfeed. For the growth and nutrition of the infant, a mixture of fats three to four per cent., sugar six per cent. or even seven per cent., proteids one to two per cent., mineral salts and water, but such an artificial food was not well tolerated except by the strongest digestion. It would be impractical to attempt such a formula in the early weeks of life. Boiled milk was not an inadequate food for infants, provided its use was maintained only during the early months; when the infant was older and the digestive functions had become accustomed to cow's milk the writer used it raw. As an antiscorbutic every artificially fed infant should be given orange juice preferably without sugar. Seven meals in twenty-four hours were sufficient up to the fourth or fifth month, and then six meals up to the tenth month. Many children did better during their second year with only four meals. The digestive capacity of each child must be determined by close study of the individual child. Considering that from 20 to 30 per cent. of all infants were bottle-fed, that the problem of feeding rested largely with the mother and general practitioner, would it not be worthy of this organization to recommend something of a uniform method practical in its application and efficient in its results?

Indicanuria in Children.—Dr. William J. Schuyler of Utica presented this communication. He said that the more the general practitioner saw of the disorders of childhood the more was he led to believe that after all, children were not so unlike grown-ups from many points of view, and that the same general rule often applied fairly well to both. During the past few years he had been impressed by the frequncy with which the finding of so-called indican in the urine seemed to be associated with many of the ills and maladies of the growing child, many of these ailments being rather obscure as to their underlying cause, or as to how much was cause and how much effect in a given case. Within easy recollection the profession had been regaled with many and various etiological entities at varying periods. Arsenical poisoning from green wall paper held its ground well in one of the large Eastern cities and vicinity some years ago and almost every case of obscure departure from health was carefully examined with a view of finding this agent as a possible cause. Tonsils, enlarged or cryptic, were given almost a free field for a considerable period and were removed partially or wholly by operation for the relief of a great variety of conditions. Adenoids came along and, in children especially, were found to be the one condition at the bottom of most of their troubles. Suppurative processes about the necks and roots of teeth followed in due time and many striking instances of relief were observed after thorough and conscientious treatment of this condition by capable dentists. Involvement of the appendix during or soon following an acute attack on tonsil infection was observed, and the relationship between the two conditions studied and discussed from various angles. And so it had gone, from one thing to another until the medical man wondered why all these things had to be and why children were the victims in one form or another of so many of the ailments that seemed naturally to belong to the adult. Indoxyl potassium sulphate, or indican, as it was generally termed, was said to be indol absorbed from the intestinal tract, changed in the liver into the above named substance, an ethereal sulphate, and finally excreted in the urine. The tests for indican in the urine were simple and fairly accurate and need not be dwelt upon at this time, it being sufficient to say that the amount as indicated by the test varied from a faint trace through about five divisions of the color scale to a degree in which the blue color was almost black. The presence of more than a trace of indican in the urine was an indication of a morbid condition which if neglected or allowed to go unmanaged might eventually lead to disastrous results, either in the growing child or to form the basis of a body habit that in later life would be found responsible for those cardiovascular and renal changes that tended to premature old age or to actually shorten life by many years. That this habit of body not infrequently began in childhood was a definite and well established fact and he believed this statement could be proved to the satisfaction of any practitioner of medicine whose field included largely the care and oversight of children. His paper had to do with that type which resulted from marked putrefactive change of the proteid contents of the intestinal tract through the action of bacteria. The two chief preliminary conditions favorable to be development of indicanuria seemed to be the ingestion of food proteids, especially that found in meat, in excess of the body requirement, and the presence in the intestinal tract of germ life which had the effect of producing putrefactive change in this proteid content. Swallowing of infected mucus from the nose, throat or bronchial tubes might start the process going, or the same might happen from decaying or infected teeth or from some morbid tonsil condition. Improperly prepared food, or food which was unsuitable and difficult of digestion might be the purveyor of bacteria of putrefaction. Children who showed a more or less constant tendency to indicanuria were very seldom well. There would be something which would indicate a departure from the normal. These often seemed nervously irritable, and prone to outbursts of temper. They were often fickle in appetite and craved foods that belonged properly only to adults. The circulation of the child who was toxic with this agent never seemed quite free or perfect for the pink color on pressure over the finger nail would be found slow in returning. The oxygen carrying capacity of the blood seemed considerably diminished and after a time a condition of anemia of simple type would be found to exist. The blood current at this stage of the trouble would be found to be below normal and the sphygmomanometer would usually show a lowered arterial systolic pressure. The mucous membrane of the indicanuric child seemed much more susceptible to outside influences and germ infections; they were constantly taking cold, with long continued nasal hypersecretion or intractable throat or bronchial cough. They often complained of rheumatoid pain and soreness and it was a question if the so-called growing pains of childhood were not at least indirectly due to this underlying cause. Here again the question of cause and effect came up, and the susceptibility to tonsil infection, adenoid change, eustachian and middle ear infection with mastoid involvement might easily be one of the disastrous effects. It must be admitted that in many instances these children showed so little of anything wrong or gave tangible evidence of illness that the advice of the physician was not considered essential and nothing was done to correct the trouble. These were the cases that drifted along, never quite well, perhaps never really ill, until reaching adult life they began sooner or later to show evidences of circulatory change of a different type. At this time or later, traces of albumen might be found in the urine, and an occasional tube cast be discovered. The victim might be conscious of a slight dyspnea with an occasional sensation of vertigo. From this time on the picture was one with which all medical men were familiar. The oculist would find evidence of arterial change in the deeper structures of the eye, while the ear specialist might be consulted on account of inadventitious sound in that organ. Even at this time the interested party might not consider himself really ill, but the life insurance company either declined him or rated him up many years in advance of his age, for his days were not as long upon the earth as were those of the man who from his childhood up was free from the presence of indoxyl potassium sulphate in his urine.

The Mechanism of Intestinal Stasis in Children—Dr. Fenton B. Turck of New York presented this paper. He reviewed his work, demonstrating the permeability of the intestinal walls to bacteria, and pointed out that in infancy and early childhood there was no barrier to arrest the passage of the intestinal flora since antibodies had not yet been generated as they were not needed. As the body developed, the tissues became less porous to bacteria. The factors leading up to intestinal stasis in childhood were much the same as those responsible for this condition in the adult excepting that the infantile organism was more susceptible. The various factors involved in the production of stasis in children were a hypersensitiveness which was responsible for an anaphylactic reaction; splanchnic congestion due to various causes, as overfeeding, especially with meat extractives and fatty acids; fatigue, shock, venous stasis, and increased permeability of the intestinal wall. Treatment must be directed to the various factors playing a part in the production of these conditions. It consisted, according to the severity of the case and whether it was acute or chronic, in colonic and gastric lavage, intercolonic and intergastric pneumatic gymnastics, demulcents, diet with special attention to the elimination of meat extractives and fatty acids, and the administration of autogenous vaccine made according to the method described by the author in a paper read at a joint meeting of pediatric societies in Boston, November 4, 1916 (See Medical Record, Dec. 2, 1916, pp. 1005 and 1006).

Pertussis Vaccine.—Dr. Henry L. K. Shaw of Albany presented this communication, in which he stated that statistics proved in young children whooping cough was the most fatal of the group of so-called infectious diseases of childhood. The discovery of the Bordet-Genou bacillus opened a way for a more rational and scientific mode of treatment. There was a probability that there were several types of Bordet-Genou bacilli. This should be borne in mind before condemning the use of vaccines which proved unsatisfactory in small series of cases. At St. Margaret's House for Infants in Albany, 164 children were exposed to whooping cough in four epidemics and only 7 per cent. of the number developed the disease. The vaccines administered were from pure cultures prepared by the State laboratory. In former days when whooping cough developed in an institution at least 50 per cent of the inmates contracted the disease. The value of the vaccines as a prophylactic measure was undeniable; they should be administered to every child exposed to whooping cough. The vaccines were harmless, did not produce a severe reaction, and there was no danger of anaphylaxis. The dosage used for prophylaxis in St. Margaret's home was the same as for treatment, namely, five hundred million for the first injection, one billion for the second, and two billion for the third, giving the injections every second or third day. The results of the vaccines in the treatment of cases already in the paroxysmal stage were not as striking as in the prophylaxis, but the concensus of opinion of those who had employed the vaccines was that where the proper vaccines were used there was a shortening of the paroxysmal stage, with a reduction of the number and severity of the paroxysms.

Role of Food Idiosyncrasies in Practice.—Dr. Fritz B. Talbot of Boston read this paper by invitation. He defined active and passive anaphylaxis and acquired sensitization. He had been able to trace a definite history of sensitization through three generations in several instances, and in 29 out of 36 cases studied there was a definite family history of either asthma, hay-fever, or eczema. The materials that might be tested to determine food idiosncrasy, included the proteins of animals, fish, milk, eggs, grains, vegetables, fruits, nuts, bacterial proteins and pollens. Dr. Talbot exhibited a large number of food proteins prepared in powdered form. He stated that the different count of the blood in asthma, hay-fever, and eczema was characterized by an eosinophilia. It seemed probable that all diseases showing a pronounced eosinophilia would eventually be connected. The symptoms of anaphylaxis might be connected with the eyes, nose, respiratory tract and alimentary tract, or there might be cutaneous or general symptoms. Croup might in some instances be due to anaphylaxis. Chronic bronchitis, when afebrile and not due to bacterial infection might be due to food. After ruling out cardiac, renal and thymic asthma, and asthma due to bronchial glands there remained bronchial asthma, or better, asthma due to anaphylaxis. Thirty-six cases studied with reference to a large number of foreign proteins, animal, vegetable, and cereal, were tabulated. Although eggs were shown to be the commonest cause of asthma in childhood, other foods might bring it on even when eggs had been entirely excluded from the diet. When a child reacted to one article of food it was apt to react also to all the members of that particular botanical group. Group reactions were by no means the rule, and it was necessary to test all the proteins before it could be said the case had been thoroughly investigated. The cutaneous symptoms secondary to anaphylaxis included such conditions as urticaria and angioneurotic edema. Up to date the writer had not been able to establish any connection between these diseases and foods by means of skin tests, and it was possible some other method of diagnosis would have to be devised. Eczema had been shown in many instances to be connected with food sensitization. Arthralgia might possibly in a small group of individual be due to foods. It was also possible that some of the cases of the disease attributed to uric acid would eventually prove to be some form of food allergy. Although there was proof sufficient to place all symptoms and diseases mentioned above among those which might be due to anaphylaxis, it should be emphasized that such symptoms was only anaphylactic in origin in a small group of cases. A case should be attributed to allergy only when it was proven to have no other origin, and when a specific skin test to a food protein was obtained. With the withdrawal of the foreign protein the symptoms should disappear and return only when the offending protein was again given.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Chronic Duodenal Indigestion in Children.—This condition is said to occur most frequently in children after the first year, and especially in those who have suffered from dietetis errors, usually with antecedent contagious diseases, or from prolonged intestinal infections, and this is fully covered by Dr. Foote in the December, 1916, International Clinics. This form of indigestion seems to be accompanied by deficiency or pancreatic ferments, especially lipase. A mild duodenitis, which either passes up the pancreatic duct, or diminished hormone formation seems responsible for the condition.

Diminished bile production may also be a factor. Anemia, loss of weight and mental underdevelopment occur. Large pendulous abdomen are common. Bottle feeding has been employed. Fever may be encountered, vomiting almost never. The number of daily stools varies from 3 to 12. They are thin, contain some mucus and flakes of whitish material and have a very foul odor. They give an acid reaction and miscroscopically contain not only large quantities of fat soaps, but also a considerable amount of neutral fat, but rarely, starch granules. It is to be differentiated from mesenteric tuberculosis and acute duodenal indigestion. The treatment consists in reducing the food elements which have proven indigestible, namely, the fat, and stimulating enzyme production by the administration of hydrochloric acid and pancreatic ferments.—Medical Summary, May, 1917.

Infantile Scurvy.—Alfred F. Hess, New York, N. Y. American Journal Diseases of Children, Vol. XIII, No. 1, January, 1917, p. 98.

As it had been shown that a clinical similarity exists between beriberi and infantile scurvy, it seemed as if yeast, which is a specific in the former disease, might also prove to be a potent antiscorbutic. Clinical experience did not substantiate the analogy, but demonstrated that this substance is of no value in scurvy either as a prophylactic or as a curative dietetic agent. It was found, however, to possess virtue as a stimulant to growth, when added to the milk in the form of the fluid autolyzed yeast or given to older infants as a desiccated powder.

The embryo or germ of the wheat seed is another effective therapeutic agent in the cure of beriberi or in avian polyneuritis. Accordingly, this was also tested clinically for its antiscorbutic power. For this purpose a cereal and a watery extract of the germ meal were prepared. These preparations manifested some value as antiscorbutics, but not sufficient to render them useful in this connection from a practical or clinical standpoint. The watery extract, which is readily prepared, was found to stimulate growth, and may be used to advantage, on account of this quality, as a substitute for barley in milk preparations.

It was furthermore noted that there is an idiosyncracy as to the reaction to well-established antiscorbutics. For example, in some instances orange juice may meet with only partial success, while potato produces a rapid cure.—Southern Med. Jour., May, 1917.

Immediate Tonsillectomy in Acute Endocarditis of Tonsillar Origin.—E. C. Fleischner (Archives of Pediatrics, Vol. XXIV, No. 2), lays special emphasis on the relative infrequency of acute endocarditis following the acute infectious diseases and its relative frequency following attacks of acute tonsilitis.

The tonsillar infection providing a source of bacteria to the bloodstream, the condition becomes amenable to surgical intervention the same as would a suppurative osteomyelitis, appendicitis, phlebitis, etc.

Delay in removing the cause only adds to the damage to the heart and lessens the chances for arrest and healing of the endocardial lesions. In acute endocarditis we have a typical sepsis which cannot be relieved by drugs or other means than removal of the cause.

Granting that tonsillectomy is not an operation of choice during an acute or subacute inflammation, in view of the far greater danger of the endocardial involvement it becomes an operation of necessity.

Four cases are cited in which a severe septic endocarditis was traced to acute suppurative tonsillitis.

Immediate operation was performed with clearing up of the general sepsis and ultimate healing of the endocardial lesion, which in all cases developed subsequent to the onset of the tonsillar infection. —St. Paul Med. Jour., April, 1917.

The Occurrence of Acidosis with Severe Diarrhea.—In an interesting paper by Oscar M. Schloss and R. E. Stetson, the authors refer (Amer. Jour. Dis. Children, March, 1917) to the fact that toxic symptoms which may occur in infants suffering from severe diarrhea are striking and characteristic. Sunken eyes, depressed fontanelle, inelastic skin (evidence of fluid loss), a mental state which is usually dull and apathetic, often terminating in stupor, but at times characterized by periods of excitement and increased pulmonary ventilation, are prominent symptoms. The urine of infants thus affected almost regularly contains a reducing substance.

This is the symptom-complex formerly described by Finkelstein as "alimentary intoxication." The authors offer evidence to show that these cases are often types of acidosis.

Investigations were made on more than 200 infants. These consisted in the determination of the carbon dioxide in the blood, the carbon dioxide in the alveolar air, the carbon dioxide combining power of blood plasma, the tolerance of soda bicarbonate, the presence of acid bodies in the urine and the ammonia coefficient of urine.

Results of carbon dioxide determinations: It seems definitely established that with the exception of unusual conditions, such as diminished excitability of the respiratory center or altered permeability of the respiratory epithelium, a reduction of the carbon dioxide of the blood signifies a diminution of the fixed alkali of the blood and therefore a condition of acidosis.

Tolerance to soda bicarbonate: In intoxication there is a great increase in the tolerance to soda bicarbonate. They demonstrate also that the intravenous method gives more prompt results and with a smaller dose.

The ammonia coefficient in the urine: Determinations were made in 16 cases of intoxication. In 14, the coefficient was above 20. In two instances it was 8 and 12:5 respectively, which are not unusual figures for infants with nutritional disorders.

Presence of acetone and diacetic acid in the urine: Small amounts of acetone and diacetic were found, but were not present in amounts proportional to the severity of the symptoms or to the degree that the carbon dioxide was reduced.

Treatment: The acidosis is best treated by intravenous injections of soda bicarbonate, 75 to 150 cc. of a 4 to 5 per cent solution, repeated in eight hours if necessary. In addition, soda by mouth in 2 to 5 per cent solution so that the patient will receive 2 to 5 gms. per day in this manner.

Dietetic treatment consisted of nothing during the first twenty-four hours except the soda solution. Later, some form of cereal gruel was given and then protein milk, well diluted. Death occurred in 86 per cent of the cases. Those not succumbing to the intoxication died later of malnutrition.—Virvinia Medical Semi-Monthly, April 27, 1917.

Eczema in Children.—George W. Crary, New York, N. Y. (New York Med. Jour., Dec. 30, 1916).

A diagnosis of eczema is to be made only after the exclusion of every other known form of dermatosis. The etiology of such an eczema, often obscure, nearly always mixed, will be classified as of internal or as of external origin, according as the causes are predominantly internal or external. In children under two years, an extensive eszema of purely external origin is rare, while local eczema of purely external origin are common at all ages. The external, determining cause is commonly bacterial, but not specifically so. The internal, predisposing cause, more particularly in children, is usually the fermentation of an indifferent food in the gastro-intestinal tract, or an anaphylactic skin reaction to some particular article of food.

The occurrence of eczemas of reflex origin, from such conditions as dentition, and in female children, especially, from adherent prepuce, must be admitted. It is improbable that the cure of an eczema, be it ever so rapid, could ever endanger the life of the infant.

Eczematous infants are commonly overfed, and usually the first step in the treatment will be a cutting down of the total amount of food taken, to somewhere within the caloric requirement, and the elimination of those articles of food which have been proven in other cases to be capable of giving rise to anaphylactic reactions. The author forbids eggs and sugar; Freeman prohibits stewed fruits and cream; both he and Southworth advocate the introduction of malt soups into the dietary.

The external dressing should be protective but absorbent, and a paste rather than an ointment should be employed, and as these skins are generally intolerant of any fat, it is best to employ as the base an iceland moss jelly ("K-Y"), and to obtain a mild antiseptic action add from 1 to 3 per cent of the monoacetate of resorcin (Euresol) and 5 to 10 per cent of ichthyol. Later, when merely the protective is needed, the K-Y lightly applied and powdered with a neutral powder serves well; but at the flexures of the joints this must be softened with white vaseline to allow free movement of the joints without fissuring of the skin.—Southern Med. Journal, May, 1917.

Treatment of Diarrhea in Breast-Fed Infants.—Dr. Joseph Marfan (New York Med. Jour.) recommends in slight diarrhea in breast-fed babies, that, on the first day, the child be put to the breast only every four hours for five or six minutes at a time; a few teaspoonfuls of pure boiled water may be given in the intervals. On the next day, the intervals may be somewhat shortened, the third day, the duration of the feedings increased, and thereafter a gradual return to normal feeding allowed. In more intense diarrhea, three or four feedings may be omitted, the milk being replaced by a quantity of boiled water by bottle or spoon equal to the amount of milk the child would have taken if well. Feeding as in mild diarrhea is then carried out. As soon as the treatment has been started, a search should be made for some definite cause, such as overfeeding or faulty composition of the milk. Even where such a cause cannot be found, and the diarrhea seems due to a special susceptibility of the digestive tract to irritation by mother's milk, no attempt should be made to change the feeding radically unless the condition is obstinate and seriously retards development. The irritability always finally disappears, but meanwhile two feedings daily may be replaced by bottle feedings with diluted and sweetened cow's milk, or, if the child be over four or five months old, with a gruel of rice, milk, and water boiled for twenty or thirty minutes. Auxiliary treatment includes the giving of one or two enemas a day of 150 to 250 cc. of a decoction of marshmallow root at 40 degrees C., to be administered once or twice daily on the first four or five days, then every two or three days. Calomel should be avoided, as it aggravates and prolongs the diarrhea. Lime water may be given, one before each feeding, either alone or mixed with one half part of simple syrup, or, if it proves insufficient, of krameria syrup. For more marked effects, a mixture of benzonapthol, bismuth subnitrate, and syrup of opium with acacia and water may be used. If the stools contain much mucus, 0.25 gram of tannigen may be given two or three times a day in a little milk. In the few cases with alkaline and malodorous stools, lactic acid in doses of a little over one minim, before feedings, is sometimes effective. If insufficiency of gastric secretion is suspected, the following combination may be tried, though not indicated as often as is generally supposed:

R—Pepsin	1 gram
Acidi hydrochloric diluti	0.5 gram
Syrupi	50 grams
Aquae distillatae	100 grams

M. et Sig.: One teaspoonful a few minutes after, or fifteen minutes before, each feeding.

If, on the other hand, insufficiency of secretion seems chiefly intestinal, one may give:

R—Pancreatin	ana 5 grams
Cretae praeparatae	ana 5 grams
Sodii bicarbonatis	1 gram

Pone in chartulas no. xx.

Sig.: Three or four powders a day a little before meals in milk or sweetened water.—Therapeutic Review.

The Aftercare of Infantile Paralysis.—Robert W. Lovett (Journal A. M. A., April 7, 1917) states the problem as being the restoration of the affected muscles to the maximum ultimate efficiency. Treatment to this end should not begin until all tenderness of the affected parts has disappeared and should be guided in general by the determination of the precise degree of involvement of each muscle or muscle group. Fatigue must be sedulously avoided and braces should not be used except for the sake of preventing deformity. Warm saline baths should be given daily and special care not to let the affected parts become chilled. Prolonged recumbency or sitting tends to the development of contractures and should not be permitted. The upright position must be encouraged after two or three months and if necessary its maintenance must be aided by light braces, which should, however, be worn only when the patient is standing or walking. In general there is a grave risk in permitting walking during the first year, especially in cases with slight involvement. Fixed deformity should be corrected by some suitable method prior to developmental treatment. If properly controlled and skilfully given massage is of some value. Electricity is usually more likely to be harmful than beneficial. The one most effective method of treatment is the practice of muscle training, the degree and duration of the exercises being carefully adjusted to the condition of each muscle. This form of treatment must be given by the physician or by one specially trained. —N. Y. Med. Jour., May 5, 1917.

Infantile Paralysis Treated with Immune Serum.—Orlando H. Petty, Philadelphia, Pa., New York Medical Journal, Dec. 16, 1916.

In deciding the value of any therapeutic agent, a much larger number must be abserved than the eleven cases above reported, yet with acute poliomyelitis many observers must each report their small series that a large number may be collected for a final opinion. From a study of eleven cases of acute poliomyelitis treated in private homes with immune human serum administered sub-durally, which administration caused no unfavorable symptoms, the author would draw the following conclusions:

Immune serum, to be of marked value, must be administered early in the course of the disease, in the preparalytic stage, or at least within a few hours after paralysis has developed.

There is little doubt that the subdural method of administration in this disease, as in all cases of meningeal involvement, is the most efficient. Sub-dural administration should always be by gravity, less serum in amount being introduced than the total amount of fluid withdrawn, except in those rare instances where no more than two or three mils of spinal fluid will drain through the needle, where 5 mils may be administered cautiously. A single sub-dural dose probably should not exceed ten mils, and be repeated within twenty-four hours if the case is not progressing favorably. A serum, not inactivated, from those who have had an attack not over ten years previously, would be the one of choice.—Southern Med. Jour., May, 1917.

Fruit Juices for Atrophic Infants.—Dr. Jonathan Gladstone (The Medical Journal of Australia) found that certain marasmic infants, which failed to react to a carefully regulated diet, consisting of barley water and cane sugar, with cream and protein gradually added, on the exhibition of large quantities of fruit juices frequently recovered and subsequently gained in weight consistently. From a series of cases he found that fruit juice could be taken to the extent of a pint daily by a dyspeptic atrophic infant under one or two years of age with immediate benefit. A carefully selected pre-digested food, poor in albumin and fat, could then be digested and absorbed with a resulting gain in weight. At first a loss of weight was to be expected; but at the end of the first week the weight was usually regained. Unless the juice was followed by a diet scientifically adapted to a weak digestion, it did no good whatever. The juice probably acted partly on account of its acid reaction, rendering the bowel unsuitable for germs growing in an alkaline medium. It would have a tonic cleansing effect upon the mucous membrane of the digestive tract, and would act as a diuretic, diaphoretic and general alterative. It supplied an attractive drink, enjoyed by all babies, containing 10 per cent. of soluble carbohydrate food, removed the irritability and restlessness of the infant, promoted quiet sleep and rendered the digestive organs able to digest and absorb a light diet. When oranges were available, the juice was made to two parts of orange juice to one of apple juice, diluted with one-quarter the quantity of water; the apple juice was obtained by shredding apples on a vegetable grater and expressing the juice by means of a fruit press. Failing oranges, melon and apple juices were used, but the results were less good. Strawberry, cherry, raspberry and banana were taken and enjoyed by the babies, without any bad effects, and probably any fruit juices available would succeed, provided the acid fruits were not used in too large a proportion, and that, when oranges were not in season, sufficient lemon juice was added to the sweeter juices to supply the necessary acidity.—Therapeutic Review, May, 1917.

Lumbar Puncture for the Relief of Teething.—T. Jackson, Indian Medical Gazette, Feb., 1917) reports the case of a teething child five months old who presented fever with cerebrospinal symptoms which could not be accounted for. Finally lumbar puncture was performed, about four c.c. of cerebrospinal fluid were withdrawn and two c.c. of normal saline injected. Beyond being slightly blood tinged the cerebrospinal fluid appeared to be normal and proved to be sterile and otherwise normal on microscopical and cultural examination. On the following day the temperature became normal and there was no return of fever or convulsions. He thinks it not unreasonable to assume that the trouble was cerebrospinal irritation due to teething and that the withdrawal of a small amount of cerebrospinal fluid in some way relieved the irritation and consequently the symptoms.—N. Y. Med. Jour., May 5, 1917.

BOOK REVIEWS

Materia Medica, Therapeutics and Prescription Writing.—Eighth Revised Edition, in accordance with the new (9th) Revision of the U. S. P., by Samuel O. L. Potter, M.D., formerly Professor of the Practice of Medicine, Cooper Medical College, San Francisco; Late Major and Brigade Surgeon, U. S. Vol. Price $1.25. Philadelphia: P. Blakiston's Son & Co.

The text of this edition has been thoroughly revised and brought into conformity with the ninth revision of the U. S. Pharmacopoea. Many new articles and paragraphs on important drugs have been added and here and there important paragraphs have been rewritten. Material which has been considered obsolete has been omitted, and the whole work rearranged to conform to the latest and best pharmacologic and therapeutic practice.

We know of no series of books issued by any house that so fully meets our approval as these Quiz Compends. They are well arranged, full, and concise, and are really the best line of text books that could be found for either student or practitioner. It is truly astonishing how many most competent and well-read physicians have this series of compends tucked away at some convenient place where they may be consulted and drawn upon in the many moments of doubt which we must meet in the course of our practical medical work.

Diseases of Children, A Manual for Students and Practitioners.—By Geo. M. Tuttle, M.D., Clinical Professor of Pediatrics, Washington University Medical School, St. Louis, and Phelps G. Hurford, M.D., Pediatrician St. Louis Lutheran Hospital, Assistant in Pediatrics, Washington University Medical School. Third Edition revised. Illustrated with 43 engravings and three plates. Cloth $3.50. Lea and Febiger, Philadelphia and New York.

This is a handy manual, succinctly planned, presenting a well balanced presentation of the essential phases of pediatric thought and teaching. In this revision Professor Tuttle has the co-operation of his associate, and together almost every topic has been almost completely rewritten and extended so as to embrace all that is new and of interest to the pediatrician. All of the important literature of the past decade bearing on the subject has been most carefully gone over and together the authors have carefully winnowed the "tares from the wheat" and present to their readers their well-balanced deductions therefrom.

The practitioner of medicine and the medical student will find in this handy little manual much help and assistance. As a work on the Practice of Pediatrics this volume includes directions and instructions for the proper care and treatment of the sick child, as well as the best methods of feeding the well child. It is a volume we can heartily recommend.

Acute Poliomyelitis, by George Draper, M.D., Associate in Medicine, Col. Phys. & Surg., Columbia University; Associate Attending Physician, Presbyterian Hospital, New York, with an introduction by Simon Flexner, with 19 illustrations. Cloth $1.50. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa.

The appearance of this book is timely, following the epidemic of poliomyelitis which swept over the Eastern United States during the past summer and autumn and just what the coming summer and autumn may have in store cannot be predicted, but it is almost too much to hope that the epidemic will not prevail again in some degree in this country.

It is very desirable at this time to profit by the experience gained in the study at the Hospital and in the home and in the laboratory, the peculiarities of the epidemic of last year. Doctor Draper's book is a timely contribution. His two years' study of this disease at the Rockefeller Institute and Hospital has given him exceptional opportunities to study this disease. This particular experience is reflected in this work in which he has combined clinical and experimental data in a way peculiarly illuminating the subject and presenting a valuable and practical guide to the diagnosis, care and specific treatment of epidemic poliomyelitis.

Impotency, Sterility and Artificial Impregnation, by Frank P. Davis, Ph.B., M.D., Fellow of the American Medical Association, Ex-Secretary Oklahoma State Board of Medical Examiners; Former Supt. Oklahoma State Institution for Feeble-Minded, Etc. Formerly Editor and Publisher Davis' Magazine of Medicine. Cloth 135 pages. Price $1.25. C. V. Mosby Company, St. Louis, Mo.

The author, at the outset, presents this work to fill a want which he feels is comparatively barren, particularly, so far as any reasonable explanation of the cause of sexual excitation has been offered. The author goes on to point out the close relationship between the special senses—smell, sight and hearing and their bearing upon the sexual function.

He does not consider that impotency is due primarily to sexual excesses. Years of study and experience in treating disorders due to sexual excess, impotency and sterility, convinced the author long ago, that too much guess-work was the cause of disappointment in handling these unfortunate cases, and failing to find the aid he looked for in text books, he has blazed a new trail as it were, and has left a few landmarks in this volume to help the student of this class of disorders to a systemic handling of such cases. The book is intensely interesting, and you will not lay it aside until it is finished.

Harvard Health Talks—"An Adequate Diet," by Percy G. Stiles, Ph.D., Assistant Professor of Physiology Harvard Medical School in Harvard University, Boston, Mass. Cambridge University Press, Cambridge, Mass.

This handy little brochure is another of the handy "Harvard Health Talks," issued by Harvard University. This one discusses the normal, well balanced diet—what elements are necessary for body wear, tear, growth and development. Protein standards are discussed and protein poison pointed out and the disturbances liable to follow. Vitamines are referred to and the importance of their accessory substances emphasized, in order to avert deficiency diseases. Faulty metabolism is referred to and its baneful influences brought to mind. It is a very readable, interesting and instructive talk on diet, foods and sitology. We highly commend the volume.

The Growth of Medicine from the Earliest Times Down to 1800, by Albert H. Buck, B A., M.D., formerly Clinical Professor of Clinical Diseases of the Ear, Columbia University, New York; Consulting Aural Surgeon, New York Eye and Ear Infirmary. 560 pages, cloth $5.00. Yale University Press, New Haven, Conn.; Humphrey Milford, Oxford University, 35 W. 32d St., New York City.

This work comprises all that is known of Ancient and Oriental Medicine, from prehistoric periods about 4,000 B. C., to Mediaeval Medicine in the early part of the middle ages, approximately A.D. 300, and from the latter date to the end of Renaissance period (about the fifteenth century), giving an account of the hospitals and monasteries in the latter middle ages; early medical instruction at Salerno, Italy, the early progress of medicine in Western Europe and the further progress of medicine and surgery in Western Europe during the Thirteenth Century and the prominent place surgery reached and the advance of medical science towards the beginning of the early Renaissance.

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It is a volume he must consult who wishes to study the history of medicine.

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PEDIATRICS

Vol. XXIX JULY, 1917 No. 6

EDITORIAL

FOUR TRAINING CAMPS FOR ARMY DOCTORS TO BE ESTABLISHED BY WAR DEPARTMENT

The following announcement from the Official Bulletin of the United States Government of May 25 will be of interest to physicians at this time:

The creation of three new branches of the medical service of the United States Army is announced by the War Department. These branches, which have been made necessary to meet war conditions, are: A division of sanitary inspection, headed by Col. Frederick P. Reynolds; a division of hospitals and hospital construction, headed by Col. James B. Glennan; and a division of medical military instruction, headed by Col. Edward L. Munson. These three branches are co-ordinated through Col. Henry R. Birmingham.

The Army needs 5,000 doctors immediately and by the end of the year twice that number will be required, as 10 medical officers are needed for every 1,000 men.

To meet the demand for doctors four training camps have been established for military medical instruction, viz. Fort Riley, Kans.; Fort Benjamin Harrison, Ind.; and Fort Oglethorpe, Ga., and the fourth camp will be designated shortly· Training has begun at the first three camps with 600 doctors assigned to each camp.

The doctors will be put through a course which is divided into three periods of four weeks each. This course is designated to familiarize the men with the functions and environment of medical military work. In particular it will be necessary to teach the doctors just what training they must give the enlisted men in the Hospital Corps. Thus the first four weeks will be spent in acquainting the doctors with the duties the enlisted man is expected to perform. The second month will be devoted to training the doctors in the duties of the medical officer and in an intensive book training on military medical matters. The third month will be spent in training in the field.

In case of an emergency it will be possible to cut off the last month of training, and it may be even possible to omit the second under stress, but the first is essential, as more than 50,000 enlisted men will be needed in the Hospital Corps, and it is imperative that the Army shall have sufficient doctors to train these men and supervise them in their duties.

An ambulance company and a field hospital will be established at each training camp for doctors, and later there will be special schools for the enlisted men in the Medical Department.

The first 1,800 doctors for the camp will be drawn from the medical reserve and from the militia. Doctors may join the Medical Department of the Army through application to local examining boards. These boards will be extended.

Col. Glennan's division of hospitals and hospital construction will be immediately concerned with the preparation of 32 hospitals for the divisional cantonments. Temporary wooden structures will be added to existing brick construction. It is estimated that each cantonment hospital will have a capacity of 1,000 beds. It will also be necessary to build several general and clearing hospitals and one or two receiving hospitals in seaport cities.

The division of Col. Reynolds—sanitary inspection—has to do with all sanitary matters pertaining to armies in the field, such as kitchens, mess shelters, ice boxes, and all sanitary appurtenances. The work will be carried on by a corps of general sanitary inspectors with the ranks of colonels and lieutenant colonels. A general sanitary inspector will also be attached to the commanding general of each army.

SUPPORT THE SURGEON-GENERAL

At this time of our great National Crisis, all physicians should awake to their patriotic duty and accept commissions in the Medical Reserve Corps of the Army. At the present time, there are less than 500 physicians in the regular Medical Corps; about 2500 in the Medican Reserve Corps and about

800 in the Militia, or a total of about 3800 physicians when we must have 20,000.

Commissions are accorded in the Medical Reserve Corps on the basis of First Lieutenant, Captain and Major, with respective pay of $2000.00, $2400.00 and $3000.00 a year. No physician is commissioned lower than a First Lieutenant.

Doctor—make up your mind now to do your "bit." Write at once to Maj. Robt. E. Noble, Surgeon General's Office, Washington, D. C., and request that application blank form 149, W. D., S. G. O. revised to May 3, 1917, be sent you and fill in and mail to the nearest chairman of examining boards, a list of which will be found on another page, when an appointment will be made for you to appear for examination.

EXAMINING BOARDS FOR MEDICAL RESERVE CORPS

The following is a list of medical boards as appointed up to June 5. The name and address of the chairman of the board only is given. It is presumed that applicants will select the board most accessible to themselves even though this may mean a board in another state:

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PEDIATRICS

ORIGINAL ARTICLES

INTELLIGENCE TESTS IN CHILDREN*

Archibald D. Smith, B.A., M.D., F.A.C.P.
Brooklyn, N. Y.

Intelligence tests properly belong in the domain of psychiatrics and psychology, and my reason for trespassing on this domain is: In my work among children the frequent request to assign a cause for the slowness in talking, some speech defect, or retardment in school, led to this study of intelligence tests as a complement to the physical examination and a reliable family and personal history.

Until the last few years there have been scarcely any tests satisfactory for testing the intelligence; the investigator asked some questions about reading and writing, doing simple sums in arithmetic, the day of the month, and the name, age and address of the subject, without much regard to the previous training or environment.

So many mental tests have been proposed that the medical man without special training is confused as to which system to choose. It seems as though no one system was fitted for all cases; and yet in working with children one is impressed by the wider range of applicability of the Binet-Simon tests over all others. Many modifications of the Binet-Simon tests have been made, and they are so numerous that one is inclined to be somewhat skeptical as to the need for so many of these modifications. In this work I have, therefore, adhered to the original Binet-Simon tests as given out by the authors.

Stigmata of degeneration are important, as well as the appearance, manner, carriage and gait. Those patients who realize their short comings are the most hopeful. A child who scribbles aimlessly on being asked to write a word is more defective than one who admits that he cannot.

The Royal College of Physicians of London defined as feeble-minded those "persons who may be capable of earning a living under favorable circumstances, but are incapable from mental defect existing at birth or from an early age of competing on equal terms with their normal birth fellows, or of managing themselves and their affairs with ordinary prudence." It is a marked improvement at the present time that we are able to say instead of in general terms such as those just quoted, in more or less exact terms about how much the mental age of the subject differs from normal.

---

*Long Island Med. Jour., June, 1917.

The first set of tests are those of Prof. Sante de Sanctis, Professor of Experimental Psychology in the University of Rome; they are good tests, and can be used by any examiner.

These tests are six in number, and in the tests different colored balls, wooden cubes, pyramids, etc., a card with a triangle, oblong and square on it, as well as some questions, are used. The subject is timed for each test. A general classification can be made by these tests such as

1. There is a high degree of intellectual defect when the child does not get beyond the second test.

2. There is a moderate degree of defect when he does the fifth with difficulty and many errors.

3. There is a mild degree when he fails at the sixth only.

A child who does all with normal rapidity is not defective.

The Kraepelin reckoning test is useful in getting evidence of the unduly rapid onset of fatigue in an exhausted or abnormally constituted brain. It consists of successive pairs of different numbers for fifteen minutes. At the end of each minute a mark is made. At the conclusion the examiner adds up the number of sums, counts the correct and incorrect and what is more important counts the number of sums done in each successive minute.

Abelson has evolved a small number of tests, aiming to correlate the results by the degree of competence for work in the ordinary world rather than by school records. One of his principles is that the result must be marked by either time or for accuracy, but never in both ways; in most of them he uses a stop watch. The chief tests are tapping, crossing out rings, memory for commissions, a discrimination of lengths test and a test with geometrical figures; also counting out sets of dots, memory for sentences, and memory for names.

All of the above tests give us a rough estimate only of the degree of mentality. When we come to the Binet-Simon tests we are dealing with a method of measuring intelligence which gives us approximately accurate results, just as the percentage method of infant feeding tells us approximately what the food contains.

Binet and Simon in 1906 proposed thirty tests, in which no account was taken of the age of the child or his training. In a paper published in 1908 they evolved a set of tests for each age of the child and nearly eliminated the element of training, presenting, therefor, "a measuring scale of intelligence." This has been modified again, and the same number of tests (five) used for each age except four years, which has only four tests.

The scale was originally applied to the selection of the mentally defective children in the public schools of Paris. It was then applied to the diagnosis of feeble-minded conditions. It has also been applied to the examination of juvenile delinquents and criminals with the result that we now know some of them are certainly defective mentally. It has also been applied to applicants for enlistment in the United States Marine Corps: (The Detection of the Feeble-Minded applicant for Enlistment—Value of the Binet-Simon Scale as a Diagnostic Aid. By A. R. Schier, M.D., Acting Assistant Surgeon, United States Navy. United States Naval Medical Bulletin, July, 1913.) He says: "Of 100 applicants for enlistment in the United States Marine Corps tested by the Binet scale, 89 passed the 15-year tests and 11 were given a mental age of from 9 to 11 years by this scale. Three of the 11 given a mental age of from 9 to 11 years were perfect physically, and no mental defect was made evident by their appearance, behaviour, and manner of talking. The ordinary reading and writing test would have been passed by them and they would have been accepted for enlistment. The Binet scale in the examination of applicants for enlistment is practical and is a quick method of estimating their mental status, and therefore is an aid in the detection of mental feebleness which would otherwise pass unrecognized."

As with all instruments of precision certain definite rules must be followed in the use of the tests. When these rules are followed it is surprising how little the personal equation of the examiner varies the results. Henry H. Goddard, of the Vineland Training School in New Jersey, who examined 2,000 normal children with the help of five assistants from the Research Laboratory of the Training School found that the results of the different investigators varied only slightly. He says: "There were obtained in these cases evidences of two things: first, that the Binet scale was wonderfully accurate; and second, that a child cannot learn the things that are beyond his intelligence." (Two Thousand Normal Children Measured by the Binet Measuring Scale of Intelligence. By Henry H. Goddard, Ph.D. Pedagogical Seminary, Vol. XVIII, No. 2.) On the other hand there are certain ones who claim that the results are not accurate. Stuart (Variability in the Results of Intelligence Tests. By D. D. V. Stuart, Jr., M.D., Assistant Psychiatrist, Johns Hopkins Dispensary, Journal of the American Medical Association, July 25, 1914) had nine defective children examined three times at varying intervals by different examiners. He says: "While the cases cited are too few in number to afford a basis for any general conclusions, it is nevertheless impossible to deny the significance of the results obtained. These show, as will be noted, variations of from one to three years in the estimated mentality of the individual subjects, the average being between one and two years. In no case did all three tests agree. If each successive examination showed progressively higher mentality the objection might be made that all cases in the table happened to be subjects who had not reached their limit of development when first tested, and that the special class training had improved their condition. The fact that the majority show apparent retrogression or remain stationary contradicts this, and the only conclusion possible is that the differences in the results were caused by the variability of the tests." Is it not possible that this difference in the results of the different examiners might be explained on this very ground, namely, that certain definite rules were not followed in the use of the tests?

In my work with the tests I have been so much impressed with this point that I am going to give an illustration:

In the three year test three pictures are used. The exact method of procedure should be:

The picture is placed before the child, and the child is asked, "What is that?" A very young child may reply, "It is a picture." Then the further question is asked, "What do you see there?" No further help is given, and the questions should be put in exactly those words. This definiteness applies to the method in all the tests.

Certain precautions are necessary before the start of the examination. The room used should be a quiet one, and should be used only for this examination during the tests. One other person besides the examiner and the child is a convenience for recording the answers of the child.

Never criticize the answers, but on the other hand, encourage the child even if the answers are not correct. It is only in this way that we are able to get the best out of the child.

Each subject should be tested with the tests which correspond to his age. One can readily tell from this whether it is necessary to go higher or lower, and the tests should be gone over until the child passes for a certain age.

In recording the result of examinations all details can be entered on the history blank marked No. I, which I now show you, and the summary is made on another sheet which I also show you, marked No. II.

On the history card it is the purpose to have sufficient data to enable another experimenter to judge of the accuracy of our results. In other words, the exact words of the child are set down as fully as is necessary to get the idea. It is difficult to write out fully the words in the test where the child repeats 60 words in three minutes, but each word can be represented by a line and marked off in groups of five, and a long line drawn at the end of each half minute.

The symbols used are self explanatory and are shown on chart No. II.

In estimating and scoring the results two rules are followed. The first is: "A child has the intelligence of that age, all the tests for which he succeeds in passing. And again: After determining the age for which a child passes all the tests a year is added to the intelligence age if he has succeeded in passing five additional tests belonging to superior age groups, two years are added if he has passed ten such tests, three years if he has passed fifteen, and so on."

TWO CASES OF LATE CONGENITAL LUES.*

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My reason for reporting the following two cases is that one of these cases presented quite an obscure condition when it first came under observation, and, while the other did show quite recognizable evidence of lues, still it raised doubts as to the proper diagnosis by the prompt disappearance of the objective signs without any internal treatment. It still further complicated the diagnosis by giving a negative Wassermann both in the patient's and in the mother's blood.

The history in each case was of no material help, as is the case with a good many cases of hereditary syphilis. As far as the negative Wassermann would bear on Case I, we need never change the diagnosis when confronted with a negative report even on more than a single examination, providing there is clinical evidence pointing to a syphilitic lesion. In corroboration of this statement we may quote from the literature on this old and ever new subject. Ravaut (1) has seen cases with eye and cutaneous lesions, without a doubt syphilitic clinically, but with a negative Wassermann. Towell (2) states in part as follows: The Wassermann test has failed to deprive clinical methods of their own importance. Heiman (3) writes that a negative Wassermann can never be accepted without reserve. Fruhwald (4) has proved experimentally that the blood of an animal may contain the syphilitic virus and even transmit it to another animal and its serum reaction be negative. Keyes (5) says, "All agree that a negative Wassermann does not disprove the existence of active syphilis."

It is also of interest to note the type of bone lesion Case II presented. Usually the bone lesion is of a chronic nature with very little pain, affecting the bones of the leg, the phalanges, and occasionally the bones of the forearm. In our case the periostitis affected the humerus more or less acutely with considerable pain and tenderness, even giving the patient a rise in temperature.

Case I.—Female, age five years. Family history negative. Mother denies having had any miscarriages and has one other child, also a little girl, three years old and in good health.

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*New York Medical Journal, June 2, 1917.

Birth history: normal delivery, weight not known. Feeding history: as an infant, was on the breast for ten months. Present feeding is the usual table diet. Appetite is good and bowels regular. Sleeps well. Has not had any of the contagious diseases of childhood. The patient was brought to the Postgraduate Clinic last year (1915), complaining of itching around the anus. Physical examination showed a well fed child of about the age given. Head and eyes negative. Mouth clean, tonsils hypertrophied. No adenoids palpable. No external glands enlarged. Ears and nose, negative. Patient breathes freely and with mouth closed. Heart negative, both at sitting and in recumbent posture. Lungs negative, abdomen not distended. Liver and spleen not palpable and no other masses felt by palpation. Genitals negative. Skin over entire body negative, except at the anal margin, where one could see as well as feel five or six small, pea sized, flat, papules that looked rather innocent, but made one suspicious. There was no evidence of any ulcer or pin worms. No sabered tibia or Hutchinson's teeth. However, a diagnosis of lues was made and a Wassermann was ordered with a return of a negative report. The patient returned in two weeks with no more evidence of any lesion. No other Wassermann was taken and the patient was not seen again until one year later when the mother brought her second child, Case II, for pain in the right arm.

Case II.—Complaint, child had not moved her right arm for past three days. The family history as well as the patient's birth history was negative. Diet was fairly correct. Had had measles when an infant. Physical examination was negative except for a good deal of tenderness of the right arm just about the elbow on the inner surface. There was no evidence of any swelling or redness of that arm, nor was there any sign of any trauma or any rheumatic history. There was no other limb affected. Temperature 100.0 degrees F. per rectum. Pulse and respiration normal. X-ray was ordered, which was taken and showed an osteoperiostitis of affected right humerus above the internal condyle on its inner surface with the periosteum elevated for about two inches from the bone. Five days later the patient began to complain of pain in the left thigh and in the occipital region; the pain in the arm was somewhat improved. Recalling the case of the older sister and the X-ray evidence, a diagnosis of lues was thought of and the child was admitted to the baby wards of the Postgraduate Hospital for observation and study.

The report from the pathological laboratory was as follows: Urine, negative; blood count showed nothing unusual. von Pirquet, negative; Wassermann, — — — —. One week later the child manifested flat papules around the margin of the anus and vulva. The mother was asked to bring Case I for examination, and she also now showed a typical macular eruption over her thighs and buttocks. The Wassermann of the mother was negative. We could not get a Wessermann of the father. The luetin test was not done in either case. Both patients are rapidly improving on specific treatment. The interesting feature about the first case is the prompt disappearance of the syphilitic papules at the anal margin without any specific treatment. While in our minds we felt that it was a case of true syphilis, yet we had no absolute scientific data to substantiate such belief at the time of her first visit. We had no opportunity to study this case since the patient failed to return for observation.

DIAGNOSIS AND TREATMENT OF CHRONIC INTESTINAL INDIGESTION IN CHILDREN[*]

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Chronic intestinal indigestion in more or less severe form is the most common ailment in children between the ages of 1 and 6 years. All classes, rich and poor, are affected. Yet very little attention seems to have been paid to it. The literature on this subject is very scanty, although physicians having children under their care meet this condition more than any other. Failure to diagnose and institute proper treatment is the cause of many children being delicate and susceptible to intercurrent diseases.

The diagnosis of intestinal indigestion of the chronic type is based on the symptomatology, which is rather comprehensive and sometimes complex. A history of the case will usually bring out the fact that the child has been improperly fed for some time. If the morning and evening temperature be taken, fever will be found present. This is of an irregular type, ranging from 99.5 to 102 F.

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[*] Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Scranton Session, Sept. 21, 1916.—Pennsylvania Medical Journal, May, 1917.

The child is listless, cross and irritable and hard to amuse. The appetite is capricious; although generally poor, he may take any food that is offered. The tongue may or may not be coated. Sometimes the tongue remains coated long after the child is apparently well.

Abdominal pain may be present, the child often complaining of his stomach hurting immediately after taking food. Tympanites and flatulence are almost always present.

Most of these patients are constipated, although some have diarrhea with four to six movements daily. Very occasionally the bowel action is normal. The stools are very offensive as to odor. When constipation is present the stools are well formed, often hard, clay colored and apparently well digested. If diarrhea of a chronic type exists, the stools are thin, greenish or brown in color, sometimes frothy and always contain particles of undigested food. Many patients will have more or less mucus in the stools, which results from irritation in the bowel on account of hard fecal matter or functional derangement.

The physical condition of these patients is rather typical. They are thin and pale with circles under their eyes. They may or may not be undersized, but all have large protuberant abdomens. A blood count will generally reveal a secondary anemia of moderate severity. Examination of urine shows an excess of indican and usually a condition of hyperacidity.

Many of these patients will have been treated with quinin and vermifuge, as this condition is often mistaken for malaria and intestinal worms.

The nervous symptoms in these cases are remarkable in their extent and very apt to be misleading. In addition to the general nervous irritability there may be convulsions, opisthotonus, tetany, day and night terrors, disturbance of speech, fainting attacks, exaggerated reflexes, attacks of dullness and stupor with irregular respirations and pulses often resembling tuberculous meningitis and acidosis. In fact, to my mind there is a distinct relationship between chronic intestinal indigestion and acidosis. In one of my cases, a boy of 2 years, there were six convulsions in twenty-four hours. In another case, a girl of 4 years, there were distinct night terrors (pavor nocturnus); she imagined her teddy bear was trying to choke her. Urticaria and the chronic forms of eczema are frequently seen in this condition.

The treatment of chronic intestinal indigestion in children will give splendid results, provided the physician has the earnest support and co-operation of the mother or nurse, and provided that the physician himself will take a proper interest in having his orders strictly obeyed. Any deviation from the strict regimen laid down will undo in twenty-four hours the work of a month.

The general management in these cases is important. Personally, I believe that the child should be kept in bed until his temperature is normal and remains so for three or four days. Then he might be allowed up, gradually increasing the time of his being up as improvement takes place. Whether the child is confined to bed or not, he should be obliged to take a nap of at least two hours daily. Regular exercise, such as walking in the open air, should be insisted on, being careful not to overtax the strength of the child. Proper clothing for the different seasons should be advised. Cool sleeping rooms, an oil massage at night and a cool sponge bath in the morning are valuable measures.

As improper food is the cause of intestinal indigestion, the most important factor in treatment is the placing of the child on a strict diet and keeping him there for a long period of time. The usual history of these cases will be that the children were allowed to eat solid food which they were unable to digest. In the majority of cases, the carbohydrates are at fault, in that they were given in excessive quantities. The most important thing to do is to place the child on a diet consisting of milk and scraped beef or beef juice. Four feedings a day may be given. Occasionally the milk must be skimmed for children who show a fat intolerance, or in very bad cases partial peptonization must be done for several weeks. If improvement takes place after two or three weeks, the juice of an orange should be given once daily and a feeding of malted milk given in place of cow's milk. Barley or oatmeal gruel is then added to the milk. If the child shows an ability to digest this form of starch, cooked cereals may be added later. Next toast or stale bread may be given and, after two months, spinach, asparagus tips, stewed celery, boiled rice and plain macaroni are added. The animal broths a soft boiled egg and the white meat of chicken are given, and together with the above-mentioned foods, should constitute the child's diet for six months. After this time, other foods may be cautiously allowed.

During the treatment the stools should be closely watched for undigested food particles. Not infrequently one is obliged to go back and start over again.

Occasionally a case will be seen where the patient has been taking cow's milk to the exclusion of other foods, or in too great a quantity. In a case of this type the management is, of necessity, different. All cow's milk should be discontinued, and the patient should be placed on a diet consisting of scraped beef or lamb, cooked cereals, one soft boiled egg daily, orange juice or apple sauce, and some vegetables, preferably spinach, asparagus, cauliflower and stewed celery. A little malted milk may be given. Resumption of taking cow's milk should be very gradual and in small quantities.

After all symptoms have disappeared, the normal diet should be resumed slowly. Hence the necessity for keeping these patients under observation for a long period of time.

In cases where there is much mucus, intestinal irrigation is of distinct service. The irrigating fluid should be warm normal salt solution and may be used once or twice a day. Continued irrigation may prove harmful, as it sometimes causes the production of mucus from irrigation.

Of the intestinal antiseptics, salol and the Bacillus bulgaricus have been of great value in certain cases. A word of caution in regard to the administration of the Bacillus bulgaricus. This remedy should not be used in cases where there is any tendency toward acidosis. It may bring on a distinct attack.

For the constipation which usually exists, nothing is better than the use of calomel and phenolphthalein, gr. 1-10 of each, every one-half hour, for ten doses. This may be repeated every week for as long a period as is necessary. As a light laxative for more or less continued use, aromatic cascara sagrada and the combination of rhubarb and soda have proved very efficacious.

The tincture of nux vomica is by far the best general tonic and may be used routinely as the physician may direct. Ovoferrin or the bitter wine of iron in connection with Fowler's solution is of value, where the secondary anemia persists.

Close observation on the part of the physician, having under his care children suffering from this condition, will be rewarded by excellent results.

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DIAGNOSIS OF SOME OF THE CONDITIONS THAT AFFECT BREAST-FED CHILDREN*

BY B. E. GREER, M.D.
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Infants reared on mothers' milk are almost invariably healthier, stronger and less troublesome than those that are bottle-fed, less susceptible to disease, and show a greater resistance to disease, in so much that the mortality is about one-sixth that of the bottle-fed. Thirty-one per cent of the infant mortality among the bottle-fed are fed the bottle by their mothers, 50 per cent are fed by strangers, the remainder fed by both, showing the importance of mothers feeding their own babies, even if it is an artificial food.

On account of the higher mortality rate among the bottle-fed, if for no other reasons (and there are other reasons), every healthful mother should endeavor to nurse her offspring wholly or partially, even if it be only for a brief period of time. We can relieve the mother of a great deal of the drudgery of nursing by giving the baby one or two bottles a day of some artificial food, preferably cow's milk as the basis, and by showing the mother this consideration she will be more willing to nurse her baby, and we will hear less complaint about her health or being unable to properly nurse her baby. Nordheim collected statistics from a large number of mothers who did not nurse their offspring, and found that 86.7 per cent had no good reason for not nursing, except selfish motives. I do not want to be misunderstood that I am advocating that there are no conditions under which a mother should not nurse her baby. There are diseased conditions under which she should not, but this paper is not intended to deal with diseased conditions, but overlooked conditions, where disease is not a part.

Very few mothers' milk will be normal under ten days or two weeks after delivery, especially if they have had unnatural conditions at that time to contend with.

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*Texas Medical Journal, June, 1917.

During menstruation, the proteids are markedly increased, and the fats are markedly decreased in the mother's milk. This sometimes causes an indigestion in the baby, but usually of only a day or two duration, and consequently one is not justified in weaning the baby.

The amount of exercise and the diet of the mother should be governed by her physical condition, and her digestive capacity, and the quantity and quality of her milk.

The next problem is healthful surroundings, hygiene of mother and baby, manner in which both are clothed with reference to the time of the year, with cheerful surroundings and freedom from anxiety and care.

A mother should never nurse her baby when she is very tired, hot, or in an angry state. The wild animals of the forest will not permit of their young nursing immediately after a fight, but will hide away for hours, to prevent their nursing, as they have learned that nursing at that time will make their offspring sick, yet many a human mother will disregard these simple precautions.

Permitting a baby to nurse too rapidly, too frequently, in too large amount, roughly handling them immediately after feeding, not giving a sufficient amount of water, giving of unnatural food for a child of that age, etc., all are sources of bowel disturbances in the young.

SOCIETY TRANSACTIONS

SECTION ON DISEASES OF CHILDREN*

American Medical Association

Dr. J. P. Sedgwick of Minneapolis in the Chair

Chairman's Address: The Institution, Reestablishment and Maintenance of Breast Feeding.—Dr. Julius P. Sedgwick of Minneapolis delivered this address, in which he emphasized the fact that the persistent demand upon the breast was a most important and continually neglected factor in the maintenance and reestablishment of breast feeding. He said that while much attention had been given to the discussion of artificial feeding, the time given to the discussion of breast feeding was lamentably small.

A resolution was passed at the Chicago meeting that as much time be given to the discussion of breast feeding as to that of artificial feeding. Stimulation was important in the establishment of lactation. The weak or premature infant was incapable of furnishing the physiological stimulation necessary. Such infants should be put at the breast, and then the mother's breasts expressed regularly five or six times a day. The technique of breast expression was important. The breast was grasped one or two centimeters back of the colored areola and a milking motion carried out toward the nipples. Under proper instruction the mothers soon gained dexterity. No massage of the breast proper was allowed; this had been found to be of little value and sometimes caused traumatic inflammatory reaction. If the babe did not gain well at the breast the trouble was probably with the babe or the quantity of milk, but not the quality. When the breast supply was low it should be determined by the balance scale, not by the spring scale. The possibility of re-establishing breast feeding after an interval by stimulation was well established. Indeed, this had been shown to be possible after a considerable period of time had elapsed. In the maintenance of the milk supply the same attention should be given to stimulation as in the establishment of the supply. We now knew enough from a physiological standpoint to save the breast milk for most babies that were now deprived of it.

The Technique of Wet-Nurse Management in Institutions.

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*Medical Record.

—Dr. Isaac Abt of Chicago presented this paper. He stated that the wet nurse and her baby should undergo an examination for tuberculosis and disease of the skin, glands, and bones, and should have the Wassermann test. The vaginal secretion of the mother should be examined for gonorrhea. The baby must be weighed and one must be sure the mother was presenting her own baby. The quantity of milk the wet nurse was supplying might be judged by weighing the baby before and after nursing. If the baby's nutrition was good and its bowels normal and the above requirements were fulfilled the woman was suitable for a wet nurse. The writer laid very little stress on the chemical examination of the breast milk, because breast milk varied so much in its chemical composition from from to time. They insisted that the wet nurse should nurse her own baby; this supplied the necessary stimulation. He did not approve of the breast pump, but every mother received instruction in the technique of expressing the milk and expressed it every four hours during the day and at night under the supervision of a nurse. The breast milk was reserved for the children who were desperately ill, those having marasmus, pyloric stenosis, etc. A baby with pyloric stenosis was fed a teaspoonful at a time when too weak to take the bottle. In some instances the breast milk was fed by gavage. The diet of the wet nurse should be sufficient, but not excessive and should be such food as she was accustomed to in her own environment. The idea that certain foods disarranged the mother's milk was probably fallacious. The wet nurse should receive good, wholesome food at regular intervals, and a glass of milk every four hours. Raw food was permitted and as much water as was necessary to satisfy her thirst. Special attention was paid to the personal hygiene of the wet nurse and she was required to wear cotton dresses that could be washed. The wet nurses were allowed each afternoon to go out for a time and to take their own babies with them, but they were not allowed to go out after dark. It had been their experience that about 20 per cent of their wet nurses menstruated, but this did not seem to have permanent ill effect on the milk. They had also found that a wet nurse would sometimes continue to be a good nurse for 18 months after the birth of her child. He had had one wet nurse who eight months after the birth of her child produced 56 ounces of milk besides nursing her own baby.

Dr. Fritz B. Talbot of Boston said he did not think too much attention could be given to this subject. Until recently very few hospitals had had enough wet nurses for the babies. Every hospital should have at least two wet nurses. What had been said about watching the nurses when they expressed the milk should be emphasized, for where this had not been done it had been their experience that cow's milk or water had been substituted in order to bring up the amount of milk. They used technical procedure in the preparation of the breast milk in addition to those described by Dr. Abt, and that was they strained the milk through sterile gauze and put it into bottles, which were then sealed with sterile wax. This was merely a safeguard against anyone tampering with them. In one of the children's hospitals in Dusseldorf they had tried freezing the human milk after it had been placed in the sterile bottles and sealed. They had had no untoward symptoms from the use of such frozen milk and it would keep for a considerable period of time. It was a mistake to think that the wet nurse's milk was not good when her baby was over a year old.

Dr. Jacob Sobel of New York spoke of breast feeding from the community standpoint. He said breast feeding was par excellence the remedy for the control of infant mortality. He had control of 59 infant health stations. It had been said that milk stations were a means of promoting artificial feeding, but this was incorrect. They were trying to increase the supply of wet nurses; when a still birth was reported the case was investigated and if suitable the mother was persuaded to act as a wet nurse. When the death of an infant under one year old was reported they likewise investigated the case and if the mother was suitable for a wet nurse they advised her to become a wet nurse. Dr. Sobel asked if any one had tried the use of injections of breast milk as a galactagogue.

Dr. George Dow Scott of New York spoke of the difference in the status of the wet nurse in Europe, especially in Vienna and Berlin and in this country; it was much easier to get wet nurses there than here. He supposed it was because of the difference in moral standards and because our moral standards were higher that it was more difficult to find wet nurses in this country.

Dr. Owen H. Wilson of Nashville, Tenn., said he had been using wet nurses for over twenty years. In the South it was easy to get women to come to the home night and morning and give their breast milk. He had gotten the best nurses from among the colored women, but one must watch them. Before anything was known of the Wassermann reaction he had used wet nurses and did not believe the expressed milk could convey syphilis.

Dr. Abt in closing said he did not know anything about the effectiveness of injections of milk as a galactagogue, but almost everything had been tried and he thought stimulation of the breast was the best galactagogue. He said he could not say just the exact effect the introduction of breast milk feeding by this system had had in their hospital, but he felt convinced that it had made a considerable difference in the number of deaths and had been the means of saving a good many babies.

Problems Connected with the Production and Collection of Human Milk.—Dr. Bert Hoobler of Detroit, Mich., presented this paper, in which he described the method of obtaining a supply of breast milk in connection with their maternity hospital. The hospital admitted in addition to a large number of private patients a certain number of unmarried pregnant women who for a small fee were delivered and cared for for three months afterwards. These girls were taught to care for their own babies and did a certain amount of work in the hospital. The milk was collected in sterile bottles, measured, credited to the account of the woman giving it. The money from the sale of the milk was credited to her also. A portion of this milk was fed to the hospital babies and a part was sold to private homes; any residue after this, was given to the Children's Hospital. The milk was never delivered to homes by the women themselves, but was sold to well-to-do people for 25 cents an ounce. The wards of the Children's Hospital contracted to pay ten cents an ounce for all that was sent them. Sometimes wet nurses were sent into homes. When this was done both the nurse and her baby and the family in which she was going were given the Wassermann test. Such a scheme for making breast milk available might be conducted in a small hospital by a joint committee from the Board of Trustees and the hospital staff. In larger cities there might be a joint board of pediatrists, social workers, and a paid social worker should be in charge of the work.

An important factor in the production of breast milk was the diet of the mother. A diet to be efficient must produce a sufficient quantity of milk containing nutrition adequate to cause an increase in growth of the offspring without impairing the tissues of the mother. Diets containing from 2600 to 2900 calories in twenty-four hours produced better results than those containing 3400 to 3700. It was of no avail to overfeed in the hope of maintaining or increasing the milk supply. Diets containing 2000 calories or less could not protect the material tissues and at the same time produce sufficient milk. Nut protein was as effective as animal protein in the elaboration of milk. The best form of animal protein to increase the milk supply and maintain the material tissues was cow's milk protein.

The Use of Lactic Acid Bacilli Milk.—Dr. Harry M. McClanahan of Omaha, Neb., presented this communication. He stated that sour milk should always be made from either pasteurized or certified milk. The only change in the milk was the conversion of a certain amount of milk sugar into lactic acid. It was necessary that the living bacillus bulgaricus should be present in the milk. He had been using lactic acid milk for the last seven years and had been using lactic acid tablets of a standard make, one tablet dissolved in a tablespoonful of water and stirred into one quart of milk in a clean glass jar or pitcher. This was kept at room temperaaure for twenty-four hours. In using skimmed milk it should be pasteurized before it was inoculated. If the sour milk was pasteurized the lactic acid bacilli were killed, and then one was giving nothing but lactic acid milk. In the writer's experience lactic acid milk had been useful in two groups of patients: First, in infants convalescing from intestinal infections, chiefly through the summer months; second, in cases in which sour milk had been badly fed and had chronic intestinal indigestion, or in those children who were recovering from acute disease, such as pneumonia, nephritis, typhoid fever or those having a milk idiosyncrasy. Among 35 children fed on sour milk there were some failures but in the opinion of the writer many of them would not have been restored to health without this food. If there was difficulty in getting the child to take the sour milk, it might be due to the difficulty with which the milk comes through the nipple, and in that case several holes should be made in the nipple with a needle heated to white heat. If the child refused to take the sour milk it might be fed by gavage until it become accustomed to it.

A Familiar Tendency to Fat Incapacity in Infancy and Childhood.—Dr. Thomas S. Southworth of New York read this paper in which he stated that the occurrence in a certain number of babies of an inability to digest the usual dietetic amounts of the fat. of cow's milk was today generally accepted. The reduction of the excessive fat and the use of mixtures made from whole milk, though often remedial, did not serve in all cases to eliminate the difficulty, so the next step was to employ milk more or less skimmed in the feeding of infants whose digestive capacity had not been seriously disturbed. This fat incapacity was not always a temporary one which might be overcome by careful feeding but was in some instances an inherited characteristic which must be recognized if the best results for the individual were to be attained in later infancy and childhood. It had long been recognized that certain adults could not take cow's milk without complaining of constipation and "biliousness." Some of these adults could take skimmed milk or buttermilk. This was a fact long ago observed. It was a mistake to aim at getting all infants showing a fat incapacity back to a full fat milk; more general success was to be attained by continuing to feed partially skimmed milk and to limit its amount in order that the sum total of fat, even in the skimmed milk, should not exceed the infant's capacity. Adhering to skimmed milk would make the progress of such children more normal. Dr. Southworth cited several instances of a familiar tendency to fat incapacity. If one found this tendency in one child it might be well to go cautiously in giving normal fats to a subsequent child in the same family.

Observations of the Presence of the Bacillus Aborticus in Certified Milk.—Drs. E. C. Fleischner and K. F. Myers of San Francisco presented this paper, which was read by Dr. Fleischner. He stated that the opinion had become prevalent that raw milk was never a safe milk and there was some question whether certified milk was safe, since even with periodical tuberculin tests applied to certified herds there were often a few tuberculous cows. They had started their experiments for the purpose of ascertaining whether the milk of tuberculous cows infected guinea pigs. Instead of finding the guinea pigs infected with tuberculosis they found that the animals had a general adenopathy, enlarged spleen and abscesses in the liver and testicles, and, in fact, had abortal disease. A large number of examinations including five herds showed absence of tuberculosis and the presence of the B. aborticus in over 90 per cent of the samples. It might be said that for all practical purposes the B. aborticus was present in practically all certified milk in and about San Francisco. The tubercle bacilli were not present in sufficient number to give tuberculosis to guinea pigs. The fact that the tubercle bacilli were not found did not mean that we were not to pasteurize the milk. If the B. aborticus was present in milk to the extent they had found it seemed scarcely possible that it was pathogenic for infants, especially since no lesions attributable to that organism had been found at autopsies in children. It meant that they must study the certified milk problem from every angle to be absolutely certain that it did not affect babies.

Rumination in the First Year of Life.—Dr. Clifford G. Grulee of Chicago presented this paper. He stated that he had been able to collect from the literature 16 cases of rumination in the first year of life. This indicated a rarity which his own experience bore out. It was a disease of such definite characteristics and so easily diagnosed that errors in diagnosis would be very few. The reason the disease was not recognized was because it had not been brought definitely to the attention of the pediatrist. Rumination in infancy was to a great extent a fatal disease. The writer had had six cases, and had differentiated a mild and a severe type. In one of his cases he found a definite dilitation of the lower end of the esophagus. there was absolutely no cardiac sphincter, but the pyloric sphincter was normal. He regarded the condition as an affection of the circular muscle groups of the upper respiratory tract, including the cardia and pylorus of the stomach, the primary condition being a pyloric spasm of greater or less degree followed in point of time by a cardiac spasm. The probable danger in this condition was from the loss of food; so much was lost that the portion remaining was not sufficient to support life. In the series of cases reported there was a mortality of almost 25 per cent. The condition had been treated along three lines, by bromides and other sedatives, by the use of cocaine and other anesthetics, and by giving thick puree. Even stopping the nostrils had been tried. They had tried to treat the disease on a psychological basis. Immediately after the child took food they tried to get its attention and to keep its mind absolutely distracted from anything pertaining to food.

Recent Literature Pertaining to Vitamines.—Dr. Louis Fischer of New York read this paper, in which he said that from the conclusions of Funk and his co-workers deficiency disease was due to an absence of a crystalline substance which could be chemically isolated and to which the name "vitamine" had been given. This vitamine was an antiscorbutic element and its absence was a factor in the development of Barlow's disease, rickets, and beri-beri. Just as we found some foods high or low in fats or proteins, we found some foods high or low in vitamines. In deficiency disease there was a definite relationship between the carbohydrate and the vitamine; a certain amount of vitamine could take care of only a limited amount of carbohydrate. Dr. Fischer referred Funk's experiments in feeding animals with white rice and resultant symptoms arising from the central nervous system. The action of the vitamine was to stimulate internal secretion. By setting free these secretions they acted as hermones, and the hormones in turn stimulated the enzymes. To guard against deficiency diseases vitaminic food such as spinach and other vegetable juices should be given during the early months of infancy. To give the vitamine necessary to the proper assimilation of food we must give a mixed diet consisting of fresh vegetables, in addition to fruit juices, fresh milk, fresh meat, and hard boiled yolk of egg. The outer coats of wheat and oats and especially barley were rich in vitamine. When there was a deficiency of vitamines in the food it was shown by a series of symptoms such as restlessness, irritability and greenish stools containing either mucus or curds. There was a stationary weight, sometimes a loss of weight. If food rich in vitamine was given these symptoms subsided, there was a stimulation of growth and weight, and the child regained or reached its normal condition. If neglected one of the deficiency diseases as rickets or scurvy would follow. When symptoms of deficiency disease were noted autolyzed yeast added to the food in doses of 10 to 60 drops had been effective in checking them and assisting in a restoration of the child to normal.

A Study of Diarrhea Conditions Found in California, Especially San Francisco, and a Comparison of Such Conditions in California and on the Atlantic Coast.—Dr. William P. Lucas of San Francisco presented this paper and made a comprehensive analysis of climatic conditions in California and on the Atlantic Coast. He said that relative humidity was a term used in attempts to describe relative dampness. The term was misleading and did not give a proper basis for comparison unless temperature was also given. On such a basis, notwithstanding the high relative humidity in summer, the vapor tension and absolute humidity were low in San Francisco. In the registration area the deaths of infants under one year of age had a percentage of 22.6 as compared with 12.5 per cent in San Francisco during the same year. Deaths from diarrhea in children under two years of age for the geographical divisions of California were tabulated and showed that in the State of California from 1906 to 1916 a very small percentage of cases in northern California, only 5.4 per cent of the cases registered, had a diagnosis of diarrhea either infectious or noninfectious, while in the Children's Department of the University Hospital in the same period only 5.8 per cent had a diagnosis of either infectious or noninfectious diarrhea. Of these 2.8 per cent were infectious, 3 per cent noninfectious. The severity of the cases could be seen from the mortality rate of 20.8 per cent. The duration of symptoms was considerably shorter than similar cases treated in the East. The same chronicity did not exist in these cases that was so prevalent in the East. Of the infectious cases only 38.4 per cent were from institutions and 61 6 per cent from homes. There were found no bacillary dysentery due to the Shiga organism, but those were found belonging to the paradysentery group, the Hiss-Y-Russell type, the Flexner, and the Morgan types. There was a marked difference in the rapidity with which these cases recuperated, which was undoubtedly due to the low temperature during the summer and fall months. The sequelae were less marked than in similar cases in the East. At the same time the respiratory death rate was higher than that of diarrheal disease. It was more than 16 per cent in the registration area and over 18 per cent in San Francisco.

A Comparison between Clinical and Roentgen Findings in Diseases of the Chest.—Dr. Henry Dwight Chapin of New

York presented this paper, which he illustrated with lantern slides. He stated that it was often hard to interpret heart shadows in little children owing to the difficulty of keeping them quet during exposure. A twisting of the body might cause such a rotation of the chest as to exaggerate the heart shadow in any direction. A comparison was made in fifteen cardiac cases between the X-ray findings and the result of physical examinations. Seven of these cases showed an agreement, one partly agreed, and seven failed to correspond to the conclusions reached by those two methods of examination. The interpreter of the roentgenogram considered that an early mitral lesion caused accentuation of the normal left auricular and pulmonic curves, producing a spherical or rounded appearance. It was difficult to distinguish by heart shadows mitral stenosis from insufficiency when either were present in only a moderate degree. In regard to the lungs the combined study of the physical signs and X-ray pictures was made in ninety-seven cases, with a substantial agreement in seventy-seven and disagreement in twenty of the cases. As examples of the latter five gave X-ray evidence of lobar pneumonias that were not detected by physical signs; two gave physical signs of lobar pneumonias which were not confirmed by the X-ray. three showed physical signs of bronchopneumonia not exhibited by the X-ray. As a general rule it was found that the X-ray would often give a showing in the absence of physical signs in congestion, small consolidations, hilum infiltratios, interlobar pleurisy, miliary tuberculosis, and mediastinal tumors. The difficulty on diagnosing hilum infiltrations and enlarged nodes was very great, and here the X-ray was very helpful. A study of the transmission of voice sounds below the seventh cervical vertebra, known as D'Espine's sign, in connection with the X-ray pictures was made in eighteen cases by Dr. Edelman in the Postgraduate clinic. All of these children gave the D'Espine's sign from the second to the fourth dorsal vertebra. The comparison here made showed that D'Espine's sign had considerable diagnostic value in diseased conditions at the root of the lung. Another point emphasized was that in all cases central pneumonias were in reality peripheral pneumonias, that all so-called central pneumonias started at the periphery of the lung.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Prognosis of Pulmonary Tuberculosis in Infancy.—A series of 130 cases of pulmonary tuberculosis in children in the first two years of life is analyzed by T. C. Hempelmann, of St. Louis, in the April number of the American Review of Tuberculosis. The writer shows that the prognosis is more favorable than is usually held. The current hopeless attitude he regards as pernicious, in that it discourages therapeutic endeavor. Many children who give a positive tuberculin reaction and are therefore infected are not ill. However, these infections must probably be regarded as active in view of the fact that sufficient time has not elapsed for effectively walling off the focus, and because the human organism at this time of life is least resistant to the tubercle bacillus and may be subject to rapid and widespread involvement. This latter fact is the basis for the common pessimistic attitude. The series studied include only such cases in which the diagnosis was based either upon the four criteria of pathological physical signs, symptoms, positive tuberculin reaction and positive Roentgenographic findings or upon autopsy findings. Systematic examinations were not always made. Of the 130 cases, 64 died and 66 were living at the time of the last note on the history. Of these 66 only 30 are known to have lived longer than one year after the diagnosis was made, but some of these were observed for four or five years. The mortality of those observed for one year or more was as follows: under one year, 78.7 per cent; from one to two years, 57.4 per cent; for two years 68 per cent. The fate of children observed less than one year is still uncertain.—Indianapolis Med. Jour., June, 1917.

The Schick Test in Poliomyelitis, Measles, Scarlet Fever, and in Normal Children.—Using the Schick test on a large number of normal children and scarlet fever patients, Zingher (Amer. Jour. of Dis. of Children, March, 1917) found that, of normal children between the ages of two and four, 32 per cent show a positive reaction, as compared with about 65 per cent of scarlet fever patients. With cases of measles between the ages of one and four, only about 10 per cent more of the children gave a positive reaction than normal children of the same age group. Of 1,350 cases of poliomyelitis between the ages of one and four over 80 per cent gave a positive reaction. The occurrence of such a preponderance of individuals susceptible to diphtheria among cases of poliomyelitis and scarlet fever suggests one of two possible causes: (1) In these cases there is a destruction of the natural diphtheria antitoxin, a possibility denied by several writers both in the case of measles, scarlet fever and poliomyelitis; (2) a susceptibility to one of the less contagious diseases indicates that the child is also more likely to be susceptible to other contagious and infectious diseases. That is to say, the relatively small proportion of children who suffer from poliomyelitis, a disease only one-fifteenth as infectious as scarlet fever, would be more apt to be susceptible to diphtheria than children suffering from either scarlet fever or measles. Again, since scarlet fever is only about one-fourth as contagious as measles more scarlet fever than measles patients should give a positive Schick reaction. While with measles, which is almost universally contagious (96 per cent) there should be only a slightly larger number of cases giving a positive test. The author's results with the Schick test point to the second theory as being correct. In conclusion: (1) the Schick is positive, between one and four years of age, in about 32 per cent of normal children, in a slightly larger proportion of measles cases, in twice as many cases of scarlet fever, and nearly three times as many cases of poliomyelitis. (2) Susceptibility to one of the less contagious diseases indicates that the child is more apt to be susceptible to other contagious and infectious diseases. (3) Natural immunity reveals problems, capable of partial solution by a study of the Schick test in diphtheria immunity. (4) A uniform techinque of making the test, standard solutions of toxin, a uniform interpretation of the test, and a large series of cases are essential in any attempt at making important deductions from the results obtained with the Schick reaction.—Med. Jour. of Australia, May, 1917.

Addison's Disease in a Cirl of 13.—J. Comby (Archives de Med. des Enfants, Jan.,, p. 28). The rarity of Addison's disease in young subjects gives interest to the following case:

A girl, aged 13 years, was admitted to hospital. She was the only child of a healthy mother, but her father had diet of phthisis 8 years previously. She had been apparently healthy till about 7 weeks before admission, when she bathed in a river during menstrual period. Menstruation ceased, a rigor followed, and since that time her strength had gradually failed. The skin of the whole body was of a deep bronze color resembling that of a Hindoo. The face had a peculiar livid color, the lips were very dark, and the nipples and their areolae were absolutely black. Other parts of the body showed irregular darker patches. This pigmentation had gradually appeared but was of recent date. The patient complained of extreme weakness which prevented her from assuming the erect or even the sitting posture. She complained of want of appetite and repeated spontaneous vomiting. The pulse was rapid, small and almost imperceptible at the wrist, while the lowering of arterial tension was evident. There were no pulmonary symptoms and she slept well and replied intelligently to questions. On admission the temperature was normal, but after a week it rose gradually to 100 degrees, falling to normal in the morning. During the day preceding death (a fortnight after admission) it remained about 99 degrees, continuing at this level till the evening of the following day, when it rapidly rose to 102.5 immediately before death, which occurred suddenly.

She was treated without apparent benefit by adrenalin chloride in doses of 5 drops twice daily, the amount being increased later to 7, and ultimately to 10 drops.

The necropsy showed general adhesion of the pleurae to the chest wall, evidently of old standing, but no tubercles were seen in the lungs, either on the surface or on section. The bronchial glands were intact and, contrary to rule, there was no tuberculosis of the mediastinal glands. The right suprarenal capsule was much enlarged nodular and softened. On section a caseo-purulent fluid escaped, and it was impossible to distinguish any normal tissue. The kidney of the same side showed several yellowish tubercles. The left suprarenal was enlarged, but less so than the right. It contained numerous yellow tuberculous granulations, but there was no suppuration. The left kidney also presented some scattered tubercles.

In spite of the youth of the patient the case is typical both in clinical course and post-mortem findings, though the former was short and rapid and the latter so advanced as to be incompatible with life.—The Medical Review, May, 1917.

Salt Solution by the Bowel in Infants and Children.—Graham (Arch. of Pediatrics, October, 1916) is a strong advocate for the use of the "Murphy drip" in many of the acute diseases of children, and considers it of great value in toxaemia from any cause, such as auto-intoxication, mineral poisoning or septicaemia. In diphtheria and scarlet fever the resulting dilution of the toxins is of the utmost value in averting nephritic complications. In uraemia and suppression of urine slow proctoclysis promotes diuresis the highly toxic and irritating materials which would otherwise be harmful to the kidneys. When oedema is present, however, its use is contra-indicated. Excellent results have been obtained by its use in profuse diarrhoea due to intestinal infection, in persistent vomiting, whether of the cyclic type or due to pyloro-spasm, pyloric stenosis or esophageal stricture. The "drip" also relieves post-operative thirst and nausea in adults, and is of great value after traumatic or operative haemorrhage. There are three essential points in giving salt solution by the Murphy method: (1) The solution must be under very low pressure, the container being elevated not more than 12 inches above the hips; (2) there must be free to-and-fro movement between reservoir and rectum; (3) the solution must be warm when introduced. A temperature of about 100 degrees F. favors absorption, and to keep the entering solution at this height, the reservoir fluid must be kept at about 110 degrees by means of hot water bottles, etc. If the drip is given too rapidly, over-distension of the bowel occurs, with expulsion of the fluid. The rate of flow should be about half a pint every hour, while the flow is checked every alternate hour to give the bowel a rest. The salt should be measured accurately, and an equal quantity of calcium chloride may be added, if desired, to each pint of solution. The difficulty with children is to allow the tube to remain in the rectum for any length of time; but persuasion (adhesive strapping in infants) will usually allow of the treatment being carried out for the necessary four to six days, or longer.—Med. Jour. of Australia, May, 1971.

Pellagra in Children.—Wm. A. Murphy, M.D., New York (Arch. Ped., April, 1917). Definite recognizable cases in children under twelve are rare. Numerous cases do occur, however, in young children and even in infants. Ten per cent of all pellagrins, quoted by the author, are children under fifteen years of age.

Among the more striking points of the disease in children may be mentioned: rarity of simultaneous occurrence in mother and nursing child; lack of any great difference between sex; marked contrast between white and colored children, the ratio in some instances being as high as 25 to 1; no predisposition to direct heredity, and, finally, the disease is limited to no particular climate.

Prodromal symptoms are usually noted in those old enough to give an account of their condition. These consist of anorexia, pain and a sense of distension in the epigastric region, frequently diarrhea with insatiable thirst; headaches, chiefly occipital, pain in the back and neck, dizziness, muscular weakness and a burning sensation in the bottom of the feet.

Children with pellagra do not differ markedly from adults, except, as a rule, the course is milder. Marked nervous symptoms are not common, and frequently do not appear at all. Not uncommonly the eruption may be the only prominent symptom. There is a form of the disease, however, in which the skin lesions do not appear. These show some of the nervous manifestations with repeated attacks of stomatitis and diarrhoeas, emaciation and obstinate gastro-intestinal disturbances.

Sprue and syphilis are the two conditions most likely to be confounded with pellagra in children.

Prognosis, good in most cases. Death usually the result of exhaustion or myocardial degeneration.—Va. Med. Semi-Monthly, June 8, 1917.

Therapeutics of Acute Lobar Pneumonia in Children.—Adolf Baginsky (Arch. f. Kinderheil, Bd. LXIV. Heft III.-IV., 1915) gives histories of a number of cases of pneumonia in children, which were treated very simply, but which nevertheless all recovered, to show that if we give the "vis medicatrix naturae" a fair chance by assisting it with proper feeding and hygiene we shall cure most of our cases without any elaborate system of therapeutics. These cases were treated by milk diet, hygiene and ice applied to the thorax, without any drugs taken internally. He made use of no antipyretics, no heart stimulants, no expectorants. He regards painting the chest with iodin, hot baths and sweat packings, and light baths as useless. Without their use resolution will take place just as well as in the mildest cases. He does not think that he can give any precise rules as to the therapeutic care of every case of pneumonia, since the course and complications of each must cause some variation in the treatment. But he believes that it will be of great advantage if all medical students leave the hospitals with the conviction that in children at least we may treat pneumonia simply and without the use of a long array of antipyretics, heart stimulants and expectorants.—The American Jour. of Obstetrics; Arch. of Pediatrics, May, 1917.

Retarded School Children in Madison, Wisconsin. — Blanton, Smiley (Jour. of Delinquency, May, 1917). On the assumption that the ordinary school curriculum taught by a teacher of average skill and patience is probably as good a test of a child's mental ability as the Binet-Simon and other mental tests, this survey was made to count those who had entered school at the usual time, but for no good reason had dropped back to the extent of 3 years. Certain cases in the first and second grades who were obviously retarded were counted although not 3 years behind. 2.9 per cent of the 3631 pupils considered were unable to pass the test thus imposed, the highest percentage occurring in grade V. The teachers gave but three reasons for backwardness; (1) laziness, (2) frequent moving from school to school, and (3) lack of parental interest; it is hard for them to admit that their pupils are of subnormal mentality. All of the cases considered came under five heads: (1) feeble-mindedness due to heredity and early conditions, 22 per cent of retarded cases, 0.62 per cent of total school population; (2) dullness due to same causes; (3) backwardness due to some abnormality of the internal secretions; (4) specialized defects; (5) neurosis preventing the child from adjusting himself to the school curriculum. A properly organized psychological clinic and special classes for the training of the backward are necessary to every school system including as many as three or four thousand children, to remove a burden from the teachers and to enable them to do more and better work with the normal children.—Psychol. Clinic. X-9, Feb., 1917. pp. 250-263. K. M. C.

The Bacteriology of the Urine in Children with Vulvo-Vaginitis. —By A. B. Schwartz, M.D., Milwaukee, Wis. (Amer. Jour. Dis. Children, May, 1917). The conception of an ascending route of infection in cystitis in infancy has heretofore largely rested on the unproved assumption of a constantly contaminated urethral tract. Such a hypothesis served to explain the predominance of cystitis in female infants.

If the incidence of cystitis were subject to local factors, then any condition which increased such local factors should militate against a sterile tract.

Dr. Schwartz presents a series of experiments to show that while a child may have a vulvoginitis it does not necessarily follow that it must also have a cystitiva. On the contrary, it would appear from these experiments that cystitis is the exception and not the rule in cases of vulvoginitis.

In 18 unselected patients with chronic gonococcus vulvovaginitis, carefully catheterized specimens of urine showed a comparative absence of bacteria. The majority of the organisms encountered were either Gram-positive cocci or diphtheroid bacilli, and these were considered merely accidental contaminations from the urethra.

Moreover, in uncatheterized specimens the urine was shown to be as free from infecting organisms as was demonstrated in a previous series of normals.—Va. Med. Semi-Monthly, June 8, 1917.

Nodose Bromide Eruption in a Breast-Fed Infant.—The case reported by E. H. Molesworth (Brit. Jour. Dermatol. and Syphilis, January-March, 1917), was in an infant 10 months old who had been entirely breast-fed and had taken no drugs. Three and a half weeks before consultation the eruption had begun in the form of small, bright red lumps on the forearms, hands and face. Similar lesions had appeared soon after on the trunk, but these were more sparsely distributed. The earlier lesions became crusted and granulomatous in appearance eight or ten days from their beginning. The pulse and temperature were normal, as was the child's general health.

The bromide apparently was contained in the mother's milk, as it was learned that the mother had taken for three or four months past a dose of 30 grains of potassium bromide as a hypnotic. It was reported that the lesions in the child died away about six weeks after the mother discontinued taking the drug.

The interesting points in this case are: (1) cases of bromide eruption due to ingestion in the maternal milk are extremely rare. (2) The normal temperature. The temperature may be raised with every outbreak of eruption due to potassium bromide. (3) The duration of the eruption after the mother discontinued taking the drug. Six weeks is rather a long time to take for the lesions to disappear unless they are very severe. But children are rather sensitive to bromide and bromide is slow to be excreted.—Urologic and Cutaneous Review, June, 1917.

Overage Children.—Janet R. Rankin. Fifty-three per cent of the children in the graded schools of Wisconsin are overage. Twenty cities chosen at random showed proportions of overage children varying from 27 to 72 per cent. Retardation increases up to grades 6 and 7 and decreases from then on to the high school. Many retarded pupils drop out in the fourth and fifth grades; this suggests a correlation between retardation and elimination. The number of children in school at different ages shows a steady decrease from the age of six years on. Retardation is an injustice to the child, producing discouraged children and those harder to control. The retarded child loses the stimulus of competition with children of his own age. The remedies suggested are good instruction, good attendance, good discipline by means of interest, more individual instruction, vacation schools, ungraded rooms in cities, coordinating supervision, health supervision, moderate sized school classes, more flexible promotion, cooperation between home and school, revision of curricula and more will in teachers to promote. Some reformers demand the absolute elimination of overage children but this is not reasonable. There are always those of less ability than the normal child. Such a reform would cause unjust promotion in many cases. A study of the problem is urged, rather than radical reform.—Journal of Education, Nov. 30, 1916, LXXXIV-20. pp. 538-540. K. M. C.; Jour. of Delinquency, May, 1917.

BOOK REVIEWS

Roentgen Technic in Diagnosis, by Norman C. Prince, M.D., Attending Roentgenologist to the Omaha Free Dental Dispensary for Children, Etc., with seventy-one illustrations. Cloth covers. Price $2.00. The C. V. Mosby Co., St. Louis, Mo.

This volume has been prepared especially for the general practitioner who has installed X-Ray apparatus in his office. The author hopes this work will aid the general practitioner in seeing light, where heretofore he has only seen darkness.

This book deals exclusively with Roentgen technic from the diagnostic standpoint. The why and wherefore of any and all processes are succinctly pointed out and their consequences emphasized. There ought to be a field for such a work and this book seems to cover the field.

Physical Exercises for Invalids and Convalescents, by Edward H. Ochsner, B.S., M.D., F.A.C.S. Pres. Ill. State Charities Com.; Attending Physician Augustana Hosp., Chicago. Illustrated. Cloth. Price 75c. C. V. Mosby Company, St. Louis, Mo.

Physical exercises can be secured in three ways: (a) by indulging purposeful, productive exercise—work; (b) field and outdoor sports; (c) gymnastic exercises. Each has its advantages and disadvantages. The Author has felt the need for a small compact manual for patients who are convalescing from surgical operations, and especially with orthopedic patients. He therefore presents this convenient and inexpensive manual, clearly and concisely describing some forty physical exercises which can be executed in the patient's room without the aid of apparatus. These exercises are described in detail and happily illustrated by wood cuts. The general practitioner will find this little book of great value.

The Roentgen Diagnosis of Diseases of the Alimentary Canal, by Russell D. Carman, M.D., Head of Section on Roentgenology, Division of Medicine, Mayo Clinic and Albert Miller, M.D., First Assistant in Roentgenology at the Mayo Clinic. Octavo of 558 pages with 504 original illustrations. Philadelphia and London: W. B. Sounders Company, 1917. Cloth $6.00 net; Half Morocco $7.50 net.

During the past decade, roentogenologic examinations of the digestive tract has become an extraordinary efficient and practicable aid to gastro-intestinal diagnosis. The literature, until the appearance of this work, has been widely scattered through periodicals, but the authors present it now in a handsomely printed and bound volume, arranged in a systematic manner comprising about all that is known or worth while, or at least all that has been verified by experience from a large amount of material. The authors wisely refrain from extensive descriptions of apparatus, but they do describe their findings in a considerable number of cases coming within their observation. The volume will be found of great practical value to all workers in the field of Roentgenology.

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PEDIATRICS

Vol. XXIX AUGUST, 1917 No. 8

EDITORIAL

THE TREATMENT OF ACUTE INTUSSUSCEPTION

When in a previously healthy infant we observe severe abdominal pains occurring in paroxysms, each paroxysm being attended by vomiting and more or less collapse, and when there are present tenesmus and mucous or bloody stools, we most probably have to deal with an acute intestinal intussusception. When, in addition to these symptoms, we can make out an elongated tumor on abdominal palpation, or can feel a protrusion on rectal examination, the diagnosis of this condition can be made with almost absolute certainty.

What should the general practitioner do to relieve this condition? If the symptoms are urgent, it will probably be impossible to reduce the intussusception by injections when the condition has lasted for many hours. If we try this method of treatment, the child had better be anesthetised and inverted, and hot solution injected into the colon under a pressure of only three or four feet. The amount the colon will hold differs very much in different cases. There is certainly some danger of rupturing the gut, even with slight hydrostatic pressure, if it be gangrenous. Whether it is gangrenous or not at the time of the injection, we can only judge by the acuteness and duration of the symptoms. The actual number of cases in which rupture of the intestine from hydrostatic pressure has occurred is very small, nevertheless some excellent authorities state that this method should never be employed in acute cases when the disease has lasted more than twelve hours. A great objection to it is that it is apt to lead the timid into placing too much confidence in it, and so cause most valuable time to be lost. When the situation of the obstruction is in the small intestine, reduction by hydrostatic pressure need not be attempted, as water will not pass the ileo-cecal valve, except in rare instances when it is congenitally deformed. Air is more apt to be successful in these cases, and has been particularly advised here because it is more likely to pass the valve. Dr. Rotch has pointed out that as the invaginated portion of the intestine is not on a line with the axis of the canal but at an angle to it hydrostatic pressure when persisted in, may tend to push the different layers of the intestine together, and so actually prevent reduction.

Intussusception must be regarded from the beginning as a surgical and not a medical affection. By some surgeons injection is only tried in very recent cases, and then only after every preparation has been made for laparotomy should the former method fail. Others do not attempt reduction by injection at all, but proceed at once to operate. Injection is only of value when it is easily successful, so that, like taxis in strangulated hernia, it should not be persisted in. Operation is far more likely to result favorably if done early, before adhesions have formed or gangrene occurred. Even the occasional operator is more likely to be successful early in the affection than if, beguiled by ultra-conservatism, he continues to try the injection treatment until inflammatory changes have occurred. Firm adhesions greatly increase the difficulties of the operation, while gangrene makes the prognosis almost hopeless.

Again, it is often impossible to tell with certainty whether the intussusception has been reduced when the injection method has been employed. It is highly probable that the so-called recurrence after reduction is only a recurrence of the symptoms, due to partial or complete failure to effect reduction. It would seem then that early operation is indicated both because the operation is much simpler and more likely to be successful at this time, as well as because it is the only method by which we can be absolutely certain that reduction has been accomplished. That young children stand abdominal operations badly is denied by excellent authorities, and, even if true, should not deter operation in what is nearly always affection when reduction is not accomplished easily by injection or early surgical interference.

ABNORMAL SELF-CONSCIOUSNESS IN CHILDREN

When the child's appetite is good and his temperature normal, most physicians are apt to think him safe in his mother's care and no longer dependent upon medical advice. Yet, if we counsel correct habits of diet, exercise and sleep we ought not to be considered as transgressing very far the legitimate bounds of medical practice if we essay occasionally a warning word about so bad a mental habit as self-consciousness. Such advice when given to a reasonable mother may be in the best sense prophylactic. Few parents can be gotten to believe, for example, that "forwardness," disobedience and rude conduct in a young child are sometimes a grave sign of mental deficiency. Gowers has noted them as one of the earliest indications of abnormal cerebral function. Instead of the youngster being prompted to rudeness and impertinence and laughted at for his supposed precocity, such performances should be viewed with anxiety and should be gently but promptly suppressed. That small children should be "seen and not heard" is a maxim based on an enlightened psychology. The abnormal self-consciousness that prompts such outbreaks can easily develop into an incurable egomania. The growing brain tissue is, as Horace so well said long ago, cereus in vitium flecti. Even where it is not congenital, a morbid feeling of self can be awakened and nourished with alarming ease and speed. No child should be encouraged to repeat poetry before his mother's guests, or praised for his "pretty curls," or even have his first trousers made too much of. The less he thinks of himself the better. He may be judiciously commended for his cleverness or good looks, or anything which he has not come by through self-forgetting endeavor. Both boys and girls should be taught to endure; to neglect trifling aches and pains, and seek for a remedy rather than cry over the trouble. Self-command and self-control are the noblest things a man can strive for, and he will never gain them unless he began learning in infancy to fix his thought and will upon objects outside himself. If such principles of education were more closely followed, hysteria and the "artistic temperament" might gradually disappear; and the hosts of insane people now walking at large, because their disorders of consciousness are not directly menacing to society, might be much diminished. Improper marriages are, of course, at the root of the evil. Bad training is, however, almost as frequent a cause, and is one which in the present state of society is much more readily remediable. To Macbeth's famous question, "Canst thou not minister to a mind diseased?" the modern physician should find a better and braver answer than that of the doctor in the play: "Therein the patient must minister unto himself."

PEDIATRICS

ORIGINAL ARTICLES

MULTIPLE FRACTURE OF THE LEG: REPORT OF A CASE*

BY WM. BARNETT OWEN, M.D., F.A.C.S.
Louisville, Kentucky

A lad of about eighteen was thrown from an automobile and sustained an oblique fracture of the thigh, also fracture of the upper third of the tibia and fibula of the same leg. I saw him in the hospital about two hours later. Reduction of the lower leg fractures was easily accomplished, and the oblique fracture of the thigh was apparently perfectly reduced, as shown by the antero-posterior and lateral radiographic plates; at least reduction seemed sufficiently perfect not to require open operation.

Some very good surgeons, the majority of them in fact, tell us that oblique thigh fractures should always be treated by open operation. but I have thought that, like other fractures, it was proper to attempt reduction by the closed method, and if sufficiently good approximation could not be obtained to insure a fairly satisfactory functional result, it was then time enough to resort to open operation.

Several X-ray pictures taken three days after reduction in this case showed good position. I dressed the thigh and leg in a plaster spica extending from above the iliac crest to the toes, with the leg in slight flexion. Traction was made from above the condyles.

Four weeks later another X-ray picture was taken, and I was surprised to note that the fragments of the femur were in practically the same position as when the patient entered the hospital. The bones of the lower leg had united perfectly. Ordinarily when there is any considerable displacement there will be plain; the fact that this patient had no pain, that the radiographic picture taken three days after attempted reduction showed good position, I thought nothing further would be required.

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*Clinical report before the Society of Physicians and Surgeons, of Louisville, Kentucky, June 21st, 1917.

Four weeks after the injury open operation was performed on the thigh fracture. A section was removed from the plaster cast making a good sized opening in the median line of the thigh from just above the condyles to almost the anterior iliac spine. By means of a double pulley attached to the wall of the operating room sufficient traction was obtained. When the site of the fracture was exposed a large section of muscle was found between the ends of the bones of this oblique fracture; there was no bony contact and no formation of callus.

The interposed muscle was removed and the fragments fastened in position by the "gimlet method" devised by Dr. H. H. Grant, of this city. The gimlets were introduced through both cortex of bone, after which the wound was closed in layers in the usual way.

Four weeks after open operation another X-ray picture was taken which showed callus being formed and perfect position. The point which impressed me is open operation on oblique fracture of the femur should always be done, which has been demonstrated again in another similar case, both methods having been tried.

REMARKS

Dr. B. F. Zimmerman: The doctor is right in advocating open operation in oblique and spiral fractures of the femur, and also of the humerus in the majority of cases. Under the closed method of treatment there is likely to be considerable shortening, particularly in oblique fractures of the femur. The method described by Dr. Owen is one that I have frequently employed, obtaining extension by means of the block and tackle.

If the fracture is so located that adhesive plaster can be used without too much traction on the joint, that method may be employed; otherwise a gimlet may be introduced through the lower fragment, attaching the pulley to the protruding gimlet on either side and thus make extension without any trouble. By this means more power may be exerted than would be possible by having three men pull upon the leg and try to produce extension by manual strength. By this method the leg can be rotated and the fragments brought into correct apposition.

I have had no experience with the gimlet method of holding the bones in position mentioned by Dr. Owen. It has been my custom to immobilize the fragments by encircling them with wire. This holds the bone more securely than a plate, and is better than nailing oblique or spiral fractures of the femur. I believe this is one of the fractures which should be treated by open operation in practically every instance. Transverse fracture of the femur can be properly reduced under anesthesia and almost anything will hold the bones in position, but the powerful muscles will almost invariably produce over-riding in oblique fractures.

Dr. S. J. Meyers: While my work is along different lines, I occasionally see cases of fracture in emergencies. I am a convert to the open operation in fractures of the femur and humerus where good results are not promptly secured by other means.

I recall a case where a lad was hurt in a gymnasium, both bones of the forearm being broken. The closed method of treatment was employed, and after a few days the X-ray showed the radius in bad position. Open operation was then performed with an excellent result.

There is little danger attending the open operation with proper technique in the hospital, and it is our duty to the patient not to delay such an operation. The surgeon who performs open operation in fractures of this type is the one who will get the best results, and with roentgenology as readily accessible as it is, there should be no question whether a fracture should be treated by the closed or the open method.

Dr. W. H. Coleman: I have done more or less fracture work for twenty years. Before the X-ray was available fractures of the thigh were treated by the closed method with plaster cast, extension, etc., and good functional results were secured; but shortening was sometimes so great that the ultimate outcome was far from satisfactory, and about a year ago I concluded to thereafter advise the open method. I was led to this conclusion by the following experience:

A young man had a fracture of the thigh and was treated by the closed method. Six weeks later the plaster cast was split and removed. The leg was perfectly straight but union did not appear firm. The cast was reapplied, drawn together with adhesive plaster, and the patient instructed to leave it intact a few weeks longer. I then left the city for my vacation and told the patient if he had any trouble to consult a certain surgeon. A few days afterward he saw the surgeon and insisted that the plaster cast be removed. He was told he might remove the cast if he would agree to remain in bed, which, of course, he did not do, but removed the cast promptly. Upon my return I found this man had nearly five inches shortening. Open operation was later performed by a local surgeon. There was an oblique fracture of the femur with considerable over-riding of the fragments; there was no callus and no union. The wound healed without untoward incident, and the man made a good recovery with about one inch shortening. After this experience I concluded to advise the open method.

Dr. J. B. Richardson, Jr.: I agree with Dr. Owen in the method of treatment employed in the case reported. I have been unfortunate enough to see a number of fractures of both bones of the forearm; some of them were plated and others were not; the X-ray showed faulty position, examination of the pictures indicating that the result would be unsatisfactory. However, my experience has been that if the patient be left alone for eighteen months or two years, even if some over-riding of the ulna or radius occurs, a useful arm is obtained. In treating fractures of both bones of the forearm the surgeon should reduce them to the best of his ability and after applying a proper dressing let them alone. Even if good position is not secured a false joint at the fracture site will oftentimes give a serviceable arm. I am opposed to plating the bones of the forearm.

Dr. C. B. Spalding: In treating fractures the surgeon should weigh everything carefully before deciding what to do. There is nothing which can take the place of open operation in certain instances, but too many bones have been plated where there was absolutely no reason for so doing. Of course where the fragments are separated by soft structures the fracture cannot be properly reduced by the closed method and open operation is imperative.

The proposition of treating fractures reminds me of the extraction of teeth for so-called focal infection. I have under observation a patient who had four teeth extracted after X-ray diagnosis of "root abscess"—when there was no sign of trouble with any of them, the focus of infection being in an entirely different part of the body.

I believe the great percentage of fractures if properly manipulated can be reduced, and when properly fixed can be held in position. At the same time I recognize that not all fractures remain reduced, and this may not be the fault of the surgeon or the character of the injury. A spiral fracture is more difficult to handle than one which is transverse. It is absolutely essential in treating fractures to maintain the fragments in position.

In fractures of the thigh it has been the custom to place packing around the leg, then apply a plaster cast to hold the bones in apposition. In spiral or oblique fracture the fragments cannot be held in position with a loose cast, and the man who attempts it is simply wasting his time. The majority of thigh fractures cannot be reduced by forced traction and kept in position by a plaster cast as ordinarily applied unless a plate is used

Dr. Zimmerman spoke of putting a gimlet through the leg for traction if there was sufficient room. If there is enough sound leg to get traction without involving the joint, I believe it unnecessary to introduce a gimlet through the bone for that purpose. If Buck's extension is to be used, let the adhesive plaster extend to within an inch or two of the fracture site, then apply a plaster of paris spika from waist to ankle, bandage and let it dry. then remove the anterior part of the cast thus leaving a trough to support the leg; then apply the weight to the Buck extension; in this way good extension can be secured. The reason Dr. Owen found faulty position when he operated was probably because the cast below the knee prevented extension. It has been my custom to open the cast widely, leaving merely a closely fitting trough for support of the leg, and use plenty of extension, fifteen to twenty pounds if necessary for four or five weeks. I have encountered some very bad fractures of the thigh, and have secured perfect results by this method of treatment.

Spiral fractures of the tibia will slip, and there is no one living strong enough to pull the fragments into proper position in a powerfully built man unless an anesthetic is used. These fractures are nearly all treated by open operation and application of plates. It has been my misfortune to have to amputate every leg during the last two years, in the Louisville Public Hospital, where plates were applied prior to my going on duty. In one case a man's tibia was fractured in two places about three inches apart; the middle section was loose and unwisely the periosteum was removed by another surgeon and plates applied. As we all know the bone receives its blood supply through the bone substance and the periosteum, when continuity of the bone and periosteum is destroyed the blood supply is obliterated, necrosis is inevitable, and amputation must be performed. In treating spiral fractures of the tibia I long since abandoned the so-called orthodox methods.

In treating fractures of the tibia I believe it is better to dress the leg with plenty of cotton around it for the first few days, making no effort to reduce the fracture until the swelling has partially subsided. Reduction is then accomplished under anesthesia. Instead of using the regulation plaster cast I prefer the so-called "pig trough" splint, which is made of plaster moulded to the posterior aspect of the leg from the heel to nearly the knee. In making this trough no cotton is used, the plaster being applied over a white stocking. A few turns of the bandage are made over the anterior surface of the leg, but these are cut as soon as the plaster becomes dry, so there is no danger of interference with the circulation. Then over this pig trough and under extreme extension, a plaster cast is applied from the toes to the upper third of the thigh.

I recall two patients who were in the hospital at the same time with identically similar tibial fractures. The first one had been treated by the older methods and had been discharged. However, union did not occur and he returned four weeks later to have his leg plated. The second patient was admitted about that time. The leg was dressed as I have described, the patient left the hospital well within three weeks, and today you cannot tell which leg was broken. If you will apply the pig trough splint there will not be many cases requiring open operation.

If there is separation of the fragments because of the interposition of muscular tissue, of course open operation is imperative. If we remember our anatomy and study the site of fracture, we can usually tell whether or not there is muscular separation. I remember one case of fracture of the bones in which the moment the patient was examined we were able to determine that the fracture was near the origin of the extensor ossis metacarpi pollicis, and that the muscle was lying between the two fragments of bone. No one could have treated that fracture successfully without the open operation.

Dr. Owen is to be congratulated upon the result secured in his case, and he did exactly right in performing the open operation. I want to go on record as opposed to plating every fracture, because many of them do not require it.

Dr. W. B. Owen: The case reported was complicated by fracture of both bones below the knee, as well as fracture of the femur, and that, of course, interfered somewhat with traction, however, I would advise operation in such a fracture, uncomplicated.

Both antero-posterior and lateral X-ray pictures were made. I thought good position of the femur had been secured and did not want to operate upon the patient when it seemed good functional results might be otherwise obtained.

I would like to emphasize the fact that open operation should be done when indicated. Oblique and spiral fractures of the thigh should always be treated by open operation.

In the case with which Dr. Richardson and Dr. Meyers are familiar there was a splintered fracture of the upper third of the radius with a transverse fracture of the ulna. There was considerable displacement. An incision was made over the radius, a small piece of bone was removed, and silver wire used to approximate the two ends. Five weeks after operation the X-ray picture showed bone regeneration and union taking place. Without open operation certainly the result would have been unsatisfactory because muscle was lying between the fragment of bone, and the lower end of the radius was displaced until it almost touched the ulna.

Plates should never be inserted, unless covered by considerable muscular tissue. Absorbable material and removable appliances should be used when possible.

PARALYSIS FROM CRANIAL FRACTURE WITH RECOVERY: GLIOMA OF THE BRAIN*

BY FRANK T. FORT, M.D.
Louisville, Kentucky

Case I. A boy, aged eight years, with extensive cranial fracture caused by a blow on the head with a brick was recently admitted to the Louisville Public Hospital. He was rendered unconscious by the blow, but he regained consciousness when he reached the hospital. Examination showed a depression two inches long and one and a half inches wide just above the right ear, and he was entirely paralyzed on the left side.

The patient was immediately placed on the operating table, and with a Hudson drill I bored a hole through the skull near the depression and elevated some of the bone. It was a comminuted fracture and several pieces of bone had to be removed which exposed the dura. A small quantity of cerebro-spinal fluid escaped showing that the dura had been punctured by a spicule of bone. Plenty of tincture of iodine was used in the wound but the dura was not sutured; the wound was closed without drainage and the usual dressing applied.

The next morning the patient could move his left leg; two days later sensation returned in the left arm; in three or four days he could move the left shoulder. Within two weeks the motor and sensory paralysis disappeared, excepting motor paralysis of the extensors of three fingers supplied by the radial branch of the musculo-spiral nerve, which lasted about a month. The wound healed by first intention, and the boy is now perfectly well.

Case II. A young man came to me suffering from severe headache. He gave no history of head injury, but said his headache had been growing progressively worse. Various methods of treatment were tried, but nothing seemed to give him relief, and I began to be suspicious of brain tumor. His eyes were carefully examined, although there was little reason to suspect the headache was caused by visual defect or ocular disease. I questioned him closely as to the possibilitv of his having syphilis, and had two Wassermann blood tests made both of which reported negative, and he denied syphilitic infection. Dr. Curran Pope examined the patient carefully, and agreed with me in the provisional diagnosis of brain tumor.

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*Clinical report before the West End Medical Society, of Louisville, Kentucky, July 10th, 1917.

The patient went east early last February, and while there became worse and consulted a surgeon interested in some hospital who wanted to operate upon him immediately. Operation was refused, the man returned to Louisville; finally his condition became so serious that something had to be done. Left-sided paralysis had supervened, and I concluded there must be a gliomatous tumor. After explaining the situation to him he agreed to go to the hospital where I did a decompression operation in the right temporal region. I thought possibly with the support of the temporal muscles hernia of the brain could be avoided; but after making the trephine opening intra-cranial pressure was found too great for the temporal muscles to withstand, and there was considerable bulging of the brain. As a result of the operation he has secured relief from the headache; there is still considerable intra-cranial pressure. the paralysis remains unimproved. I do not believe the patient will ever get entirely well, although he may live in comparative comfort longer than would otherwise have been likely and may not end his days in an insane asylum as many such patients do.

I merely report the case to show the futility of treatment in gliomatous tumors of the brain. They cannot be entirely removed because they are incorporated with the brain tissue; but by doing a decompression operation sometimes temporary relief may be afforded the unfortunate patient as illustrated by this report.

WHAT IS MIND?*

BY CASPER L. REDFIELD
Chicago, Ill.

Psychology is said to be "the science of the phenomena of mind." It is considered a subjective science, all other sciences being distinguished as objective. Let us break over this distinction and consider mind from the objective standpoint.

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*The facts and general theory on which this article is based have been condensed and discussed by Mr. Redfield in "Dynamic Evolution" recently published by Putnam & Co. The facts were determined by many years of work analyzing the pedigrees of men, horses, dogs and cows, and are set forth in detail in the contributions listed on page 205 of that book.

What is the Mind or Ego of which we speak? Is it a series of experiences, or is it something which undergoes experiences? Is it a series of operations, or is it something which performs operations? I will not attempt to answer these questions. Probably I could not do so to my own satisfaction, to say nothing of the satisfaction of others. Still, in some collateral investigations I have come upon some matters which bear upon intellectual power, and it is my purpose to present these for consideration.

Certain British scientists, particularly physicists, have postulated a Universal Mind as the source of all mental and reasoning powers. They give Mind, Energy, Ether and Matter as being the fundamentals out of which the Universe is composed. If it is a fact that Mind is thus fundamentally distinct from other things in the Universe, it follows that what we have learned in other sciences will be of little help to us here. On the other hand, if Mind, in the sense that it involves intellectual power, can be identified with known things, then knowledge accumulated in other sciences should help greatly in the solution of psychological problems.

A mathematical calculation is a mental process. It is distinctly an operation of the Mind. But a calculating machine driven by ordinary mechanical power will perform the same mathematical calculation. Mental power and mechanical power are transformable into the same work. Physicists consider such a test as being sufficient to identify mind with energy.

Mind has the power of self-consciousness, but before we set that up as a distinguishing characteristic we should remember that we have automatic machinery which gives the characteristic tests for self-consciousness. The automatic telephone exchange driven by electrical energy furnishes a case of this kind. Human intelligence and human operations are matched, and even exceeded in that apparatus.

In an ordinary telephone exchange, the subscriber who wishes to talk to some other person gives a number to an operator, called the "A" operator at a central office. The "A" operator transmits this number, or a part of it, to a "B" operator in another office, and the "B" operator extends her connection to the desired local station and calls the desired person to the phone. To perform her part of the operation, the "A" operator must possess intelligence and a considerable amount of special knowledge which will enable her to select the proper person, out of many, as "B" operator. In her turn, the "B" operator must possess intelligence and knowledge to enable her to select and call the proper station. Among other things, each operator must take cognizance of what is going on at the time in various parts of the exchange, otherwise there would be unending confusion.

The automatic telephone exchange is an organism which performs all of the operations of a manual exchange, and also all of the operations performed by a multitude of "A" operators and "B" operators. It performs these operations with greater accuracy and greater speed than they can be performed when guided by human intelligence. And it does them by a series of feelings which correspond to mental phenomena.

A calling subscriber gives a number to an instrument on his desk. Almost instantly there is a signal at the station represented by that number, or a return signal telling the calling subscriber that the called subscriber is busy. In finding the desired station, in determining its condition, and in giving the signal appropriate for that condition, no human agency intervened. These things were done by electrical impulses flowing over circuits. The connection from the calling to the called subscriber is not confined to one fixed path. It is some one of many hundreds of paths, and those electrical impulses must select automatically that particular path which is most appropriate at that particular instant. In doing this, those impulses must take cognizance of what is going on within the exchange by reason of the co-existence of hundreds of other calls, each one of which has its own series of impulses simultaneously picking out some non-busy path. Each complete circuit from station to station is made up of sections, all sections except the terminal ones being common property as sections of other complete circuits. When a call goes out from a calling station, the impulses are immediately confronted by many possible paths some one of which they must select. One time they select one path and another time they select another path, but the selection is never haphazard. At all times the selection is of the particular one which is, at that particular instant, the most appropriate. The selected section is built upon the initial section and simultaneously isolated from interference by other impulses. At the end of this new section the impulses are again confronted by the necessity of selecting one of many paths. The most appropriate is selected, isolated and built upon the circuit, whereupon the impulses are again confronted with the necessity of selecting a path.

This apparatus does not have the senses of hearing, seeing, tasting or smelling. It operates by feeling, and by feeling it continually tests out its own inner condition and acts in accordance with what it finds within itself. It is self-conscious in a way which closely approaches the self-consciousness of human beings. Other automatic machines operate by taking cognizance of surrounding objects, some by sound which corresponds to hearing, and some by light which corresponds to seeing. It is quite possible to construct machines which would contain all of these things and which, with proper power, would act intelligently as human beings act intelligently. The mechanical power would produce the exact equivalent of intellectual power as far as ultimate results are concerned.

Thinking and reasoning are characteristic of mind, no matter how we may define those terms. A man can think and reason only because of the heat units he derives from food. Shut off the supply of heat units, and thinking and reasoning cease. Heat units are the source of ordinary mechanical energy. Hence, whatever mind may be, its power is, in its ultimate, the same thing that drives the steam engine, the water wheel and the windmill. A due consideration of that fact should help some in the solution of some psychological problems. What these problems are and how applications are to be made, I will leave to others.

But we can go a step further in identifying mental power as being one of the many forms of that energy which we know in mechanics. In its increase and decrease from generation to generation, mental power follows the second law of thermodynamics with the same exactness that other forms of energy follow that law. This second law is to the effect that all forms of energy gradually dissipate, and that energy can be concentrated or stored only by the performance of work, which means the expenditure of other energy for this purpose.

A man gains strength by exercise in a gymnasium, and a trotter gains speed by being trained. The Binet system establishes a scale which represents the normal gain in mental power in a child from year to year. But no such gain in mental power would occur if the child did the Rip Van Winkle act of sleeping for years. The mental development comes from the mental exercise. Muscular power and mental power are increased by the expenditure of energy through muscle and brain, and these observed facts correspond to the latter part of the second law of thermodynamics.

But a trained athlete will gradually lose his power if he follows a sedentary life, and a trained trotter will lose his speed if his training ceases. Similarly, mental power is lost by mental idleness. In fact, all organs lose their powers if those powers are not exercised, and the loss is proportional to the amount or extent of the inactivity. These facts correspond to the first part of the law.

All animals, man included, live through the ages by generations which follow each other in succession. Each generation consists of two parts. One is an idle period extending from conception to birth, and the other is an active period extending from birth to the next conception. The line of demarkation between activity and idleness is not clearly defined as at the point of birth, but, for convenience, we may assume it to be so. The idle period from conception to birth is a fixed period, but the active period from the birth to the next conception is a highly variable period. The more frequently the generations follow each other, the greater is the proportion of idleness to activity in such a unit of time as a century. The greater the length of time from birth to the next conception, the greater is the proportion of activity to idleness.

Mental activity increases mental power, while mental idleness causes a loss of mental power. Hence, to improve the race in its mental qualities, there should be an increase in the length of time from generation to generation. What is gained by extra activity in one generation is passed along and becomes the heritage of the next.

The biologists will immediately raise the objection that the above involves the inheritance of acquirements, and that they have convincing evidence that acquirements are not inherited. The answer to their objections is two-fold. First, they never investigated the evolution of either mental or physical power, and the mass of evidence which they have collected has no bearing on the subject. Second, it is a plain and undeniable fact that improvements in mental or physical power come only when there is an increased amount of mental or physical work performed between birth and reproduction. In man we find that the eminent men of the world were produced by fathers and grandfathers averaging about forty years of age at next birth, whereas the normal for the race is about thirty-two years. To get the two-minute trotter from stock not capable of trotting a mile in three minutes, it was necessary to reduce the number of generations in a century from the normal ten to seven, and to cause each generation in succession to do large quantities of hard work.

Mental power and mechanical power are derived from the same source; both are transformable into the same work; and both are governed by the same fundamental laws. There can be no doubt that the human mind is one of the many forms of energy we know in mechanics. That being a fact, much of the scientific knowledge accumulated in physics should be of assistance in the solution of psychological problems.

525 Monadnock Block

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SECTION ON PEDIATRICS*

Meeting of April 12, 1917.

Sinusitis in Children.—Dr. K. A. Phelps read this paper. He said that sinusitis in children was barely mentioned or not at all mentioned in the standard works on pediatrics, rhinology, or pathology, and even those books devoted exclusively to the nasal accessory sinuses gave little space to sinusitis in children. During the past four years at Johns Hopkins Hospital and Dispensary, 200 children presenting some definite sign or symptom of a sinus infection were most carefully examined and only 23 were definitely proven to give a purulent sinus infection. Examination with the X-ray was also included. The records of the Manhattan Eye, Ear, and Throat Hospital for the past five years showed but 12 cases of proved sinusitis in children. It would seem, therefore, that sinusitis was not a common disease in children; it was nevertheless a most important one. From a study of about 300 X-ray plates, together with the actual dissection of children's sinuses, it might be stated that the sinuses were probably more variable than any other structure in the body. Their shape, size, development, or even presence was never the same in two individuals, and even in the same person the sides were apt to be asymmetrical. Some of the 35 cases referred to above have interesting histories regarding the etiology. One followed going in bathing, four followed definite coryzas, six followed the infectious diseases, four came on suddenly over night, one followed tonsillectomy, and one followed extraction of a tooth. In a study of 37 cases reported in the literature, scarlet fever was the cause in all but five. Grove reported a series of cases in which the infection was due to postoperative vomiting following adenoidectomy. It would be most interesting, he thought, to study a group of children during some epidemic, especially of meningitis or poliomyelitis. Perhaps some valuable information regarding the portal of entry could be obtained. Co-operation between pediatricians and rhinologists along this line should accomplish something. Once a sinus was infected, anything causing obstruction to its drainage would determine the further course of the disease. In children nasal obstructions were most often caused by adenoids and in certain cases of sinus infection not demanding radical operation an adenectomy would often give relief. Sinusitis might occur at any age; the youngest case coming under their observation was five months of age. Acute sinusitis was said to be more frequent in children than the chronic form. Still if children were systematically examined for a sinus infection, a chronic infection might be more often found. Of their 35 cases, 19 were acute, and nearly all presented some complications. Two had meningitis on admission, 3 had orbital abscesses, 2 had orbital cellulitis with no pus found at operation or postmortem, 5 had swelling of the eyelids, 1 had an abscess of the lower lid, 1 had swelling between the eyebrows, 1 had a cheek abscess, and 2 suffered from acute otitis media, which cleared up on treatment of the sinusitis. Two complained of profuse nasal discharge, and 1 complained of severe headache and nasal obstruction. Often the acute cases went undiagnosed. Every child who suffered from meningitis, asthma, nephritis, arthritis, endocarditis, as well as those suffering from long standing coryzas, frequent attacks of tonsillitis, bronchitis, or laryngitis, were carefully examined for a sinus infection, and the relation above mentioned was frequently established. In few chronic cases could the history of an acute stage be obtained. Usually the onset was gradual and the symptoms indefinite. The most common symptoms complained of were nasal discharge, headaches, and nasal obstruction. Non-operative measures often produced good results. Twenty-one of the 23 cases were seen at least one year after treatment and 13 showed no evidence of active sinusitis; the remaining 8 were all improved.

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*Medical Record, June 30, 1917.

Dr. Lewis A. Coffin exhibited specimens showing the anatomical structure of the various sinuses in young children, and showed lantern slides illustrating the development of the sinuses at different ages and the comparative appearance of normal and diseased sinuses as shown by the X-ray, at the same time giving an informal talk on the diagnosis and treatment of sinusitis in children.

Dr. Duncan Macpherson said that Dr. Coffin had made a great part of the contribution to the literature on sinusitis in children and he was in a position to give accurate information as to the anatomy and development of the sinuses in children. There were many possibilities of making mistakes in making a diagnosis. the X-ray would probably give them much help, but radiographs had been found to be very deceptive. In cases in which the X-Ray had indicated the presence of disease they had found on operating a perfectly healthy sinus; on the other hand, there had been cases in which there was evidence of sinus disease in which the X-ray gave no indication of its presence. So he emphasized the fact that depending on making a diagnosis from the X-ray alone was misleading. It was not an easy thing to tell whether the pus was coming from individual anterior or posterior cells that the picture might lead them to believe. Frequently it was necessary to make two or three examinations and to employ suction before one was able to get pus and be positive that he was dealing with sinus disease. The diagnosis of sinus disease was of considerable importance in view of the fact that so much had been said with reference to focal infection, and no doubt an infected sinus might furnish a focus of infection. In children the symptoms were entirely objective and, therefore, it was very much more difficult to tell whether disease was present. Children were, of course, unable to give any information of value and one had to draw his conclusions entirely from observation. If on looking under the inferior or middle turbinate one found after two or three examinations a layer of mucopus, it might be an indication of a possible sinus condition. Today these patients were treated by a mild suction by means of a catheter, combined with mild general suction, thus removing the secretion from the mucous membrane and nasal cavities. This applied to cases of acute rhinitis and coryza where on careful examination they found pus. The mother or nurse should give careful attention to the amount of mucus that was secreted by a child under the age of three to five years, as such observation was of considerable value. Any adult using more than one handkerchief a day was considered as having an abnormal amount of secretion and possibly there was something wrong with some of the sinuses. Another point that was important was the relationship of sinus disease to otitis media. They had found a certain number of cases of recurring otitis media which had cleared up on treatment of a sinus infection. Where one found repeated acute exacerbations of middle ear trouble it was well to remember that they might be the result of a "dirty nose," and frequently there was behind it a sinus condition. This rendered the child susceptible to acute rhinitis and middle ear disease, and predisposed to exacerbations. One point with reference to washing out the antrum. The method described had been to go in as high as possible under the inferior turbinate and to direct the needle upward. In the child or adult this was dangerous because of the possibility of going through into the orbit. The way to avoid this was to turn the needle downward, reversing the direction, but introducing the needle as high under the inferior turbinate as it could be placed. In cases of orbital abscesses, so-called, it might not be possible to find pus in the orbit. In many instances one was not dealing with an orbital abscess but with a cellulitis.

Dr. Seymour Oppenheimer said that if one made a series of sections of skulls in children he would be struck by the fact that the sinuses developed earlier than has been considered to be the case. There was no question as to the frequency of sinus disease in children. Studies made on 120 cases of acute suppurative middle ear disease showed that in a considerable number there was also a suppurative process in the sinuses. This was not surprising, as the mucous membrane lining the Eustachian tubes was a continuation of that lining the nose and throat. Likewise, after a study of the surgical anatomy of the parts one need not be at all surprised to find orbital complications in the presence of sinus disease, or to find basal meningitis from infection of the sphenoid cavity. Another cause of sinusitis in children not mentioned in the paper was the vaginal discharge of the mother at the time of birth of the child. One who studied sinus disease in the adult found that frequently the history showed that the disease had had its inception in childhood. There was one point that had diagnostic significance, and that was that if one found a greater amount of lymphoid tissue on one side than on the other there was likely to be accessory sinus disease. A unilateral hypertrophy along the faucial fold was suggestive of an underlying sinusitis. In closing, the speaker emphasized the importance of paying more attention to children with the "snuffles" and a mucopurulent discharge during the diseases of childhood; a large percentage of these cleared up without surgical interference, but there might be present a latent process that would give rise to trouble in later years.

Dr. L. T. LeWald said that Dr. Coffin had brought out the point as to the frequency of maxillary sinus disease in children and Dr. Oppenheimer had emphasized the fact. From many postmortems on children Dr. LeWald stated that he had been struck by the frequency of these conditions encountered in making X-ray examinations. The difficulty of getting evidence of the presence of ethmoid disease by means of the X-ray was spoken of; the Caldwell position gave a better angle for the ethmoid and frontal sinuses than the so-called Baltimore position. In addition, Dr. LeWald emphasized the value of the stereoscopic examination.

Goiter in Children; Report of Two Cases.—Dr. Edward W. Peterson made this communication. He stated that goiter might occur congenitally. Demme of Switzerland had collected 642 cases, of which 53 were congenital. The congenital form of goiter occurred oftener in the male than in the female. Goiter of the new-born was often merely a tumefaction of the thyroid gland, which disappeared simultaneously in a few weeks. Ninety per cent of the cases of congenital goiter if the goiter persisted showed evidence of hypothyroidism or developed cretinism. Dr. Peterson stated that the first case of congenital goiter which he wished to mention had been reported on a previous occasion. (See Medical Record, Oct. 28, 1916, page 790.) The second case was that of a boy ten years of age operated on July 6, 1916. The operation presented no particular difficulties and the boy had been greatly improved thereby. The specimen removed gave the typical picture of thyroid adenoma. The pathologist stated that the growth presented certain characteristics suggestive of a tendency to malignancy, and in all probability if not completely removed wonld recur locally. Some of the points of interest in connection with goiter in childhood were that colloid goiters were exceedingly rare. A localized swelling or encapsulated adenomatous growth of the lower pole of the right lobe were the types most frequently met with. The right lobe was involved ten times as often as the left. Juvenile goiter affected males almost as often as females. Graves' or Basedow's disease was rare in childhood. The writer, however, had encountered two typical cases, one a girl of nine years and the other a girl of twelve. Inflammatory swelling of the thyroid was met with in the course of acute infectious diseases, but suppurative thyroids was almost unheard of in pediatric practice. within a period of six months the writer had had two cases of thyroid abscess in his Babies' Ward Service. It was exceptional to find a child with goiter who was normal mentally and physically. Influences which tended to increase the thyroid circulation, such as prolonged strain, emotional excitement, puberty, pregnancy, etc., favored the further growth of goiter once it was started. The treatment of simple goiter was (1) palliative and (2) operative The palliative treatment included rest, drugs, laxatives, specific thyroid medication and X-ray and radium therapy. The indications for operation were as follows: (1) In all simple goiters which did not respond to medical treatment. (2) Nodular goiters. (3) Goiters producing pressure symptoms. (4) Abnormally situated goiters, especially those which projected into the thorax. (5) Goiters developing suddenly and growing rapidly. (6) Painful or sensitive goiters. Operation was contraindicated in serious cardiac, pulmonary, or renal disease. The most useful and most frequently applicable operation was the method of incision as practised by Kocher. Enucleation could be recommended in selected cases for the removal of single encapsulated growths or cysts. Resection was indicated in large diffuse goiters, when, for curative as well as for cosmetic reasons, the removal of one lobe was not sufficient. In nodular goiter involving both lobes of the gland, excision of one lobe with enucleation of the growth in the other lobe, was the method generally employed Exenteration was practised in inflamed or inaccessible or deeply seated growths, where complete removal was unwise or impossible. Ligature of the thyroid arteries was rarely ever done in cases of simple goiter as the more radical operation could usually be carried out. Every effort should be made to preserve the parathyroids. The removal of too much or of all of the gland would be followed by myxedema, and if the parathyroids were removed at the same time, tetany and death would ensue.

A Case of Exophthalmic Goiter.—Dr. Sara Welt-Kakels presented this patient, a boy 14 years of age, who gave a history of emotional shock. Dr. Welt-Kakels stated that exophthalmic goiter was a condition which was rare in boys and also rare in children under 14 years of age. It had been stated that only 5 per cent of the cases under 16 years of age showed the characteristic symptoms, tachycardia, exophthalmos, etc. This patient showed all these characteristic symptoms, including Graef's symptom; that was, the upper eyelid did not follow promptly and evenly the movement of the finger downward, but halted and moved jerkily. This boy also showed a defect in convergence. His tonsils were irregular and enlarged. He had tremor of the fingers. The tachycardia ranged from 92 to 120. The action of the heart was normal, though there was a change in the sound over the right apex and also over the thymus. The blood pressure was 135 to 140. It was claimed that high blood pressure was found not only in hyperthyroidism, but also in hypersecretion of the adrenals, and that cases of adrenal involvement usually showed the higher blood pressure. In this case the Wassermann was negative. The blood examination showed hemoglobin 58 per cent, red blood cells 3,300,000, leucocytes 14,000. This was not the characteristic blood picture in exophthalmic goiter since there was a leucocytosis, whereas one would have expected a lymphocytosis.

An Experimental and Clinical Study of the Isolated Thyroid Hormone.—Dr. Nelson W. Janney made this communication, in which he reviewed an investigation of the hormone isolated by Dr. E. C. Kendall of the Mayo Clinic. He stated that this preparation presented unusual difficulties in its isolation and purification. In the pure state it was crystalline, had a constant melting point, and consisted of 66 per cent iodine. The therapeutic effect of the hormone was controlled by metabolic studies made on animals and thyroid patients. The nitrogen balance as explained in a previous communication (Medical Record, 1917, Vol. 91, page 352), was found useful in following the effect of this new thyroid remedy. These studies had now been extended to a series of normal control cases, exophthalmic goiter and cretin patients. Normal individuals reacted with tachycardia and other toxic symptoms with very small amounts of the thyroid hormone, usually one to two milligrams daily being sufficient to cause this reaction if continued for some time. The nitrogen balance began to decrease before clinical symptoms appeared. Metabolism was evidently profoundly affected by the hormone. Small doses varying from 0.01 to 0.1 milligram daily were administered to various exophthalmic goiter patients. Improvement of the clinical symptoms followed in some cases and an increased retention of nitrogen was observed. In the majority of cases, however, the clinical condition and the nitrogen balance remained stationary, so that, as would on a priori grounds be expected, no definite therapeutic effect in exophthalmic goiter was observed. Prolonged studies were carried out on a cretin who remained on fixed weighed diets and daily determination of the nitrogen intake and output, for a period of some thirty weeks. It was found that decided clinical improvement followed the daily administration of a hormone solution containing 0.25 milligrams of iodine. Marked retention of nitrogen occurred on this dose and went hand in hand with the clinical improvement. The great activity of this preparation might be judged from the fact that 0.5 milligrams daily was found by their metabolic methods of investigation to represent an overdose. That the nitrogen retention was due to the effect of the thyroid preparation was proven by administering fresh thyroid gland and thyroid tablets to the same patient, both of which caused nitrogen retention likewise. From this work the conclusion might be drawn that the thyroid hormone, as isolated by Dr. Kendall, probably possessed all the therapeutic action hitherto ascribed to thyroid preparations. It was likely that owing to its fixed constitution and the delicacy thus to be obtained in the dosage, this hormone would be preferred to other thyroid preparations when its production attained commercial proportions.

Dr. Walter Timme said he agreed largely with the statement made by Dr. Rogers, first as to the non-operative procedures in children. Most of these cases had their origin in emotional shock or heredity. These overturned the balance of the internal secretions, but it was frequently restored spontaneously at puberty or after the establishment of menstruation. We got many other cases without exophthalmos due to depressions at these critical times in the child's life, and if surgical interference could be held in abeyance until the child passed through them it should be done. Dr. Peterson mentioned one case in which after operation thyroid feeding stopped tetany. In cases in which tetany was produced by the excision of the thyroid it was due to the fact that the parathyroids had been impaired in their activity. If the thyroids alone were excised we did not get this effect. Cases treated by the X-ray in which the thyroid disappeared sometimes showed tetany and spasmophilia because the interference with the thyroid has caused in the parathyroids also decreased activity. These cases showing tetany should be treated with calcium salts and parathyroid secretion. Dr. Peterson had spoken of the importance of iodine in the management of these cases. If the iodine content was increased it increased the capacity of the thyroid as a reservoir and hence caused a diminution of thyroid in the body. So far as Dr. Kendall's experiments were concerned it was interesting to note the accidental character of his discovery. He had already obtained some of the crystals, but for a year after the first success he could get no more. He used a form of thyroid gland during this time without result. Finally he remembered that in his original work the results were obtained while working next to a freezing microtome with an atmosphere charged with carbon dioxide. Upon repeating the process in the presence of carbon dioxide, he again succeeded in getting the crystals. However, Dr. Kendall was not a clinician but a chemist. What he said with reference to chemistry could be accepted without criticism, but this was not true of his clinical observations. The substance which he had isolated was a hormone which had toxic properties, the "A" portion of which was insoluble in acid; and this hormone produced in cretins and in animals used as controls certain effects. and yet that portion "B" which was soluble in acid did not seem to contain these toxic properties; nevertheless, it did have an effect for betterment when administered to cretins. This would seem to bear out the theory that there was at least one other hormone that was not contained in the "A" crystals, the rest of the thyroid containing others. Another point was that if this thyroid preparation was given to a patient having myxedema the nitrogen balance was disturbed, and yet in no case cited by Dr. Janney had an account been given of the nitrogen thrown off in the perspiration. It was well known that in myxedema patients the skin was very dry, and when they were treated with thryoid the skin lost this dryness and became moist; this loss must be taken into account. This nitrogen that did not come out in the urine or feces must be accounted for as it was not necessarily used by the cretin in growth. The relationship between thyroid, thymus, pituitary, and adrenals was such that no statement could be made regarding the increased blood pressure as due to one or another of these ductless glands. If there was a large amount of adrenalin and a small amount of thyroid there might be an increased blood pressure when the thyroid was administered, or we might have an insufficiency of adrenalin, in which case the thyroid acted to lower the blood pressure. Thyroid disturbance could never be integrated in terms of thyroid alone, but one must always take into account the effect of every other gland of internal secretion.

Dr. Janney, in closing the discussion, said there was one omission to which he wished to call attention. An adequate explanation for the cause of the toxic symptoms in exophthalmic goiter had never been advanced by writers on this disease. The following chemical hypothesis had long seemed reasonable to him: It was well known that very slight changes in the constitution of various complex substances occurring in the organism might lead to a normal body constituent becoming under abnormal conditions a deadly poison. Thus the aminoacid histidine, which occurred in body protein through the simple replacement of its acid group (—COOH), by an amino group ($—NH_2$) became B—Imidazolylethylamin. The latter compound was highly toxic. In applying this consideration to the thyroid, we might observe that Kendall considered his hormone to be di-iodo-oxyindol which also contained the acid —COOH group. It seemed, therefore, not improbable that through a metabolic defect, the proper synthesis of the hormone in Graves' disease might be replaced just as in the example above quoted of the —COOH group by the $—NH_2$ group. This would probably lead to the production of a toxic substance, which might be responsible for the toxic symptoms. The point had been brought up by Dr. Timme as to whether the elimination of nitrogen in the perspiration might have influenced the nitrogen balances obtained in our investigations. It was, however, known that but very little nitrogen escaped through the sweat. It was also to be remembered that the nitrogen balances in our patients was unusually increased by the thyroid periods. If the administration caused, as might be supposed, an appreciable increase in the loss of nitrogen through the skin by stimulating perspiration, the effect on the balance should be a decrease and not an increase as they had observed. With regard to the question of the rationale of trying the hormone in hyperthyroidism, the writer stated that the many fruitless attempts to treat this condition with thyroid preparations were, of course, known to them.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

Recent Literature Pertaining to Vitamin; Their Application in Infant Feeding.—By Louis Fischer, M.D. A certain class of infants, be they breast or bottle fed, will at the end of a few months appear pale, restless, dissatisfied, and the stool will show undigested particles, or more frequently, mucus stools will be noted. There is either no gain in weight, or there is a loss in weight. The food is either poorly assimilated or it does not contain sufficient nutrition for the growth and development of the infant. This condition is commonly termed "inanition," and consists of a general starvation with its resulting defects. Unless the food is so modified, and the deficiencies therein made up, structural defects such as rickets or scurvy may result. These defects arising from faulty nutrition have been termed "deficiency diseases."

From the conclusions of Funk and his co-workers deficiency disease results from the deficiency or absence of a crystalline substance or substances which can be chemically isolated, and to which the name "vitamin" has been given. This accessory food substance is an antiscorbutic element and when absent is an important factor in the development of Barlow's disease, rickets and beriberi.

According to these investigators all food contains vitamin. Just as we find some foods high or low in fats or proteins, we find foods high, and others low, in vitamin.

Funk states that a definite relationship exists between the onset of certain deficiency diseases and the amount of carbohydrates consumed, and that it is certain there is a definite relationship between the vitamin content of the food and the amount of carbohydrates which have to undergo metabolism. Accordingly the fact must be emphasized that a certain amount of vitamin can take care only of a limited amount of carbohydrate.

Another interesting point brought out by Funk is that animals fed on white rice or rice from which the shell containing the vitamin has been removed, showed marked changes in the chemical composition of the brain. Remembering that the most characteristic feature of the deficiency diseases is a group of symptoms arising from the central nervous system his findings must be regarded as very important. Experiments were made with autolyzed yeast, and it was found that when 3 per cent of yeast is added to food of white rats their growth was stimulated. When symptoms of a deficiency disease was noted, in infancy or childhood, autolyzed yeast in doses of 10 to 60 drops was added to the food.

The clinical aspect of vitamin therapy has been studied by M. Stark and Edelman at the Post Graduate Hospital, and their interesting report in American Medicine, November, 1916, deserves careful study.

The action of the vitamin is to stimulate internal secretions. By setting free these secretions they act as hormones. These hormones again stimulate the enzymes. To guard against deficiency diseases vitaminic foods such as spinach, and other vegetable juices should be given during the early months of infancy. To give the live factor or vitamin necessary to the proper assimilation of food we must give a mixed diet consisting of fresh vegetables such as potatoes, spinach, dandelion, carrots, peas, and beans, in addition to fruit juices such as orange, lime and pineapple juice, fresh milk, fresh meat, and hard boiled yolk of egg. The outer coats of wheat, oats, and especially barley, are rich in vitamin. The excellent results obtained by Kassowitz with phosphor cod-liver oil therapy in rachitis, in the light of our present day knowledge, is due to the vitamin content of the cod-liver oil.

When the vitamin is absent from food there is a lack of co-ordination of the food elements, and the resulting metabolism is abnormal. There is a deficiency of the food compounds, and this deficiency is shown by a series of symptoms such as restlessness, irritability, and greenish stools containing either mucus or curds. There is a stationary weight, sometimes loss of weight. If food rich in vitamin is given these symptoms gradually subside, there is a stimulation of growth and weight and the child regains or reaches its normal condition. If neglected one of the deficiency diseases such as rickets or scurvy will follow. It is our duty therefore to prevent the development of the deficiency diseases which in time means structural weakness. Such children are more susceptible to the acute infectious diseases and offer less resistance to disease in general.

Malnutrition subsequent to faulty metabolism, in which the nutrition was improved and the infant more satisfied when the vitamin-containing food and vegetable juices were added to the dietary. The character of the stool was changed within a few days from greenish mucous stool to one of a yellowish pasty-like consistency. It may be interesting to note that no medication was given.—Medical Advisor.

Scabies—Among the cases shown by Hartzell in a skin clinic at the University of Pennsylvania was an example of Scabies. While Scabies is a common condition it often goes unrecognized and still more often is imperfectly treated. Scabies and pediculosis are the only two itching diseases that may be "caught." Small family epidemics are of frequent occurrence.

Hartzell points out, in the International Clinics for June, that the diagnosis is to be made from the fact that the disease is contagious and that it shows a predeliction for certain regions.

In very young children the palms and soles are often affected. In adults the sides of the fingers, the flexures of the wrists, the anterior axillary folds, the breasts in women and the shaft of the penis in men. An itching desire situated in these regions is almost certain to be scabies. Close examination will show a few small, dotted, sinuous lines or burrows which are absolutely pathognomonic of scabies.

Ten or twelve percent sulphuric ointment is an efficient remedy but is too irritating for infants and young children. Hartzell recommends for the latter equal parts of styrax and olive oil, or one or two drams of balsam of peru to the ounce of vaseline. Whichever remedy is employed it should be rubbed in from the neck to the end of the toes and fingers on three or four successive nights. This should be followed by a bath and then wait for three or four days to see whether the treatment has been successful and to avoid producing a dermititis. If unsuccessful the treatment is repeated. All members of the family must be treated.

Effects of Cinematograph Displays on the Eyes of Children—N. B. Harman, in the British Medical Journal, discusses this problem and points out several of the factors which render moving pictures fatiguing to the eyes of children. In the first place there is the effect of glare, which is directly irritating to the eye, and is specially associated with the existence of a limited spot of light in a dark room. To overcome this the room in which the pictures are shown should be illuminated in the parts not immediately about the screen. The light used for projection should be only of sufficient intensity to make the pictures clear and the reading matter should be shown with much less intensity. The flicker of the motion of the pictures and the rapidity of the movement of the persons and objects in the pictures are both very fatiguing and irritating to the eye. Both of these can be largely overcome by perfection in the process of taking the pictures. The prolonged concentration required to grasp the story of the pictures, especially combined with the absence of other objects or of speech to provide some distraction also causes very marked fatigue. The long duration of the exhibition serves to intensify this factor, and the pictures should be interrupted by some other form of exhibition, or limited to one hour for children. Finally the fact that the majority of the children sit in positions relative to the screen which produce distortion or are too close or too distant for the proper visual effects, conduces to further tiring of the eyes and the child's brain. If the points mentioned could be remedied and the time for children be sharply restricted, the occasional indulgence in these exhibitions would have no harmful effect upon the eyes, but as the shows are now run they are conducive to a noticeable amount of visual impairment.—The Medical Brief, July, 1917.

Treatment of Gastritis in Children.—A Writer in the June issue of the Med. Summary says that a rigid dietary must be mapped out and vigorously enforced. No drinks except those that are perfectly bland and unirritating should be allowed. If the child is bottle-fed, add lime water to the diluted cow's milk or other artificial food. Opium must be given to relieve the pain. He prefers to give the camphorated tincture of opium in four or five-drop doses to a month old infant. If the child is thirsty give it mucilaginous drinks, just a small teaspoonful or two at a time. Stimulants are always indicated in the later stages. He prefers to give the stimulants in the following manner:

℞	Quiniæ sulph.	1 oz.
	Best whiskey	8 dr.
	Aquæ	8 dr.

M. Sig.: Keep hot and wring cloths out of it and apply them over the breast and stomach of the child.

This should be kept up for hours at a time. By using this application the child gets the benefit of the tonic action of quinine, the stimulating action of the whiskey, and the virtues of hot fomentations. Injections of whiskey into the rectum are often used with benefit, but they cannot be kept up sufficiently long to do the child much good, on account to the irritation to the rectum. In conjunction with the above treatment, inunctions of cod liver oil three or four times a day, have materially helped the case.—Amer. Medicine, June, 1917.

Skin Grafting—In a well illustrated article, in the International Clinics, June, Dr. Arthur M. Shipley describes the excellent results he has obtained in the treatment of chronic leg ulcers by the use of skin grafts. He employed the method described by John Staige Davis in the Journal of the American Medical Association, Sept. 19, 1914.

Shipley reports eight cases of the obstinate type of leg ulcer in which complete success was obtained.

He recommonds this method for the following:

First, the ease and the simplicity of the procedure.

Second, its uniform success if the proper precautions are taken in the preparation of the surface and the application of the grafts.

Third, the robust surface that is formed by the graft.

Fourth, the fact that the operation con be done without a general anaesthetic.

Fifth, the very rapid and remarkable filling up of the base of the ulcer to the level of the surrounding tissues.

The method is not available on an exposed surface like the face, unless the grafts are closely placed, otherwise the resulting surface has a spotted appearance.

Fracture of the Forearm in Children.—Jacob Grossman (Interstate Med. Jour., Vol. XXIV, No. 6), says that classical Colles' fracture, commonly seen in adults, is very rare in children. In their series of 150 csaes of fractures of the forearm there was not a single instance of this lesion.

There were a number of subperiosteal fractures occurring at the lower end of the radius. The characteristic objective symptom upon which a diagnosis can always be made in this type of fracture is what it known as "pencil" tenderness. This tenderness is localized to the site of the fracture. It is present in all cases and persists for many weeks after the fracture has been sustained. Very little callus formation occurs during the healing of these fractures.

Epiphyseal separation occurred in 6 2-3 per cent of the entire number of fractures.

Regarding treatment, the greater intensity of the healing processes in the former requires a shorter period of immobilization. The tender skin of the infant, the movable cover of fat which envelopes the bones, makes an exact therapy very difficult in infants and children. In their experience they have found plaster of Paris bandages more efficient than splints.

Where there is a fracture of the shafts of both bones, or of the shaft of the ulna, or of the radius alone, the deformity, should one be present, is reduced. A plaster of Paris circular bandage is then applied, extending from the middle of the arm above, to the metacarpo-phalangeal joints below, leaving the fingers unconfined. The elbow should be held at a right angle and the forearm midway between pronation and supination. The patient should be encouraged to exercise the fingers actively from the very first.

There is a tendency for the four fractured surfaces to be drawn towards one another and for union to take place with complete loss of pronation and supination. This can be avoided by fixing the forearm so that pronation and supination are impossible. Fusion of the fractured ends can be avoided by preventing all lateral pressure on the bones after proper coaptation. To be successful, one must obtain proper reduction and proper immobilization. A pad between the shafts, as recommended by many, is unnecessary, as it could not separate the bone ends without exerting injurious pressure upon the circulation.—The St. Paul Med. Jour., July, 1917.

Jaundice with Enlarged Liver in a Young Adult: (Primary Carcinoma of the Gall-Bladder)—An example of this rare condition is reported, in the International Clinics for June, by Thomas McGrae.

The patient was a young man, age thirty years, who entered the hospital because of illness dating back five months. The trouble began with pain in the right side, loss in weight. Jaundice appeared about three weeks after his admission to the hospital. Physical examination showed prominence of the surface veins of the abdomen and fullness in the epigastrium was due to a firm mass with a distinct edge which came within 1 C.M. of the naval in the mid-line. The mass extended to the left beneath the left costal margin opposite the ninth rib. To the right it passed under the right costal margin and in the nipple line is felt below the costal margin on deep inspiration. The mass was smooth and hard and presented no irregularities. The gall-bladder was not felt. As active anti-syphilitic treatment had been tried before his admission to the hospital and the Wassermann test was negative, syphilis was ruled out. A moderate nucocytosis was present and the red cells slightly reduced in number.

After considering the various conditions which might account for the tumor mass, loss of weight, jaundice, etc., the diagnosis was correctly made by exclusion. The conditions considered were: Hypertrophic biliary cirrhosis of Hanot; syphilis; portal cerrhosis, abscess, cholangeitis, angiocholitis and neoplasm. The latter seemed the most probable diagnosis. This was confirmed by an exploratory operation and later by autopsy.

The majority of the cases of primary carcinoma of the gall-bladder are associated with gall stones, the figures varying from 75 to 100 per cent. The case reported belongs to the exception.

Acidosis, with Special Reference to Children.—Fergus Hewat (Practitioner, May, 1917) says that when acetoacetic acid is detected in the urine two obvious indications for treatment arise: to stop the formation of the abnormal acids and to neutralize the acids already present. In children the condition may be met with in connection with some rtivial illness, or with urgent symptoms. In an ordinary so called bilious attack a saline purge or vegetable laxative and an enema are given. An ordinary soap and water enema followed by a saline washout is perhaps the best method of relieving the large intestine. This is followed by a simple alkaline mixture and dextrose added to the diet, which may require to be albumin water or whey for twenty-four to thirty-six hours. Later oatmeal gruel is useful. In severe cases in which there is intractable vomiting the lower bowel must be unloaded and a glucose solution, five to ten per cent, slowly introduced by means of a long tube. Sodium bicarbonate may be dissolved in this. Warm water well sweetened with sodium bicarbonate in ten grain doses, is given by mouth. If this is vomited, repeat it frequently and apply hot fomentations to the abdomen. As soon as the vomiting abates give almubin water with dextrose. In the diet of infants Nestle's milk has often been found successful, but its use must not be continued too long as it is deficient in antiscorbutic properties.—N. Y. Med. Jour., July 7, 1917.

Gout and Infectious Arthritis.—In two clinical lectures, in the International Clinics for June, Henry A. Christian considers the differential points between Gout and acute and chronic Arthritis.

There are three types of gout:

First, obvious depositions of urates in the bone or in the cartilage, or in both.

Second, in which that does not occur, but in which there are chronic arthritic changes, with exostoses and associated atrophy of the cartilage, etc., sometimes with depositions of urates in the soft parts around the bone, adjacent to the bone, but not in the bone.

Third, very little change in the joints, inflammatory change in the soft parts, but no obvious deposition of urates in the soft parts about the joints or in the bones or cartilage. In all three types depositions of urates in the ears occur giving typical tophi that are easily recognized.

In regard to the value of Uric Acid Metabolism studies, Christian points out that we are dealing with a substance which is present in the blood and in the urine in relatively very small quantities. Anything present in small quantities brings up the possibility of error in its determination. In the second place, we are dealing with a substance which in the blood is very difficult of quantitive determination, and there is still a question as to whether the methods available are astisfactory; or, to put it another way, other substances than uric acid may cause the same calorimetric changes which are used by Folin in his method of determining the uric acid.

In regard to the X-rays he states that we are justified in calling gout only those cases in which there is the typical punched-out area in the bones with thickening in the bony substance around the area.

BOOK REVIEWS

Therapeutics, Materia Medica and Pharmacy.—Thirteenth Edition, Enlarged, Including the Physiological Action of Drugs, Special Therapeutics of Diseases and Symptoms. The Modern Materia Medica, Official and Practical Pharmacy, and Minute Directions for Prescription Writing, Incompatibility, Etc. Also Antidotal and Antagonistic treatment of Poisoning and over 650 Prescriptions and Formulae. By Samuel O. L. Potter, M.A., M.D., M.R.C.P. (Lond.), formerly Professor of the Principles and Practice of Medicine, Cooper Medical College, San Francisco; Thirteenth Edition, Revised and Enlarged, by Elmer H. Funk, M.D., Associate in Medicine, Jefferson Medical College, Fellow of the College of Physicians of Philadelphia, Etc. 8vo; xvi-956 pages. With Thumb Index in each copy. Cloth, $6.00; Half Morocco, $7.00. P. Blakiston's Son & Co., Philadelphia.

When a work has reached the thirteenth edition it would appear that there has been a demand for it. Potter's Materia Medica is like an old friend, tried and true. It is a volume one can always consult with profit and without disappointment.

It is an old and valued friend which needs no commendation, much less an introduction. It ought to be in the library of every physician and student. It is the most convenient and most concise work on therapeutics and materia medica in the English language, and is at the same time thoroughly reliable. Though necessarily largely a compilation, nevertheless there is much that is original, the author being one of the most prominent of American therapeutists. The author has very skilfully steered his course between the pessimism that marks a system of therapeutics based solely on the results given by experiments and observations in the chemical and physiological laboratories, and the optimism of hasty empirical generalizations founded upon meagre clinical data, and for this reason we consider that the greatest claim can be made, that this book is a safe one for the junior practitioner.

The author has aimed to embrace in a single volume the essentials of practical materia medica and therapeutics, and has produced a book small enough for easy carriage and easy reference, large enough to contain a carefully-digested, but full, clear, and well-arranged mass of information. No new remedy of any acknowledged value is omitted from this list. Under each the section on physiological action and therapeutics has been written with care. On the enumeration of drugs suited to different disorders a very successful effort at discrimination has been made, both in the stage of disease and in the cases peculiar to the remedy. It is no mere list of diseases followed by a catalogue of drugs, but is a digest of modern therapeutics, and as such will prove of immense use to its possessor.

It contains almost everything that can be found in the larger works in a more concise form and brought up to a rather more recent date. Under the head of prescription writing considerable attention is paid to the subject of incompatibilities, and the student will here find many valuable hints for his guidance in this difficult subject. Besides this, there are, under the head of special therapeutics, very many formulas for the treatment of particular diseases and abnormal conditions, arranged alphabetically for easy reference, forming very complete and reliable index of treatment which will be a godsend to many a busy practitioner who has no time to wade through the copious literature that accompanies each new drug into the market.

Hand Book of Gynecology, for Students and Practitioners, by Henry Foster Lewis, A.B., M.D., Professor and Head of Department of Obstetrics and Gynecology in Loyola University School of Medicine, Chicago, and Alfred De Roulet, B.Sc., M.S., M.D., Professor of Gynecology in Loyola University School of Medicine and Chief of Staff of St. Marguret's Hospital, Chicago. 127 illustrations; about 500 pages; cloth $4.00. C. V. Mosby Co., St. Louis, Mo.

The authors consider medicine, surgery and obstetrics, subjects of greater importance than gynecology, and therefore in the preparation of copy for this work they have had consideration for the demand upon the physician's time and have prepared a handy work, omitting long descriptions of major operations and their technic. They have succinctly formulated principles of surgery suitable for the special work to be done, and do not burden the reader with elaborate illustrated details of gynecological operations.

They have found during twenty years of teaching and practice that the usual classification is not practical and they leave the beaten path and blaze a new trail. For instance, they treat various types of infection as it affects the different tissues and organs of womankind; of neoplasms, of traumas, of malformations, etc. They lay greatest stress upon the parts most commonly or typically affected by these influences. They get away from the usual anatomical classification, which goes up step by step from vulva to the tube until the peritoneum is reached. They hold that gonorrhoea is the same in the urethra, vulva, cervix or tube, modified only in its manifestations by the special tissues affected and the physiological characters of the infected regions.

The authors think it good judgment to treat the sick patient by whatever means best adapted to the individual case and circumstances. This work is practical, concise, trustworthy and authoritative.

Poliomyelitis, in All Its Aspects, by John Ruhrah, M.D., Professor of Pediatrics in the University of Maryland Medical School, and the College of Physicians and Surgeons, and Erwin E. Mayer, M.D., Instructor of Medicine in the University of Maryland and College of Physicians and Surgeons, Baltimore, Md. Illustrated with 118 engravings and two plates; handsome cloth bindings; $3.25 net. Lea & Febiger, Philadelphia, Pa.

The appearance of this book is timely, following the epidemic of poliomyelitis which swept over the Eostern United States during the past summer and autumn and just what the coming summer and autumn may have in store cannot be predicted, but it is almost too much to hope that the epidemic will not prevail again in some degree in this country.

In the preparation of the copy for the text of this volume, the authors have endeavored to cull the literature of the world on the subject, and a careful examination of the book at once reveals how well they have succeeded in sifting the wheat from the chaff, and they present briefly only such theoric considerations as they deem of interest and importance. There is at present no adequate account of the disease in one volume, until the appearance.

This small volume reflects the combined clinical and experimental data in a way peculiarly illuminating the subject and presenting a valuable and practical guide to diagnosis, care and specific treatment of this dread disease. We highly commend this work.

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PEDIATRICS

Vol. XXIX SEPTEMBER, 1917 No. 9

EDITORIAL

INFANT MORTALITY IN METROPOLITAN DISTRICTS

The death rate among babies in the larger American cities has been reduced 11 per cent since 1910, according to the infant mortality survey just completed by the New York Milk Committee. This reduction has been made among cities of 100,000 population and over. The smaller cities have not done so well. The reduction in cities between 50,000 and 100,000 population is only 2 per cent while those under 50,000 show an increase of 5 per cent. The general reduction is 9 per cent. The survey covers 150 of the largest cities in the United States since 1906. The marked decrease in infant deaths did not begin until 1910 when organized infant welfare work became general.

"These 150 cities represent one-fourth of the population in the United States and they report 670,000 living births and 68,500 deaths under one year of age for the year 1916, making an infant mortality rate of 100 baby deaths for each 1000 births reported," says J. H. Larson, Secretary of the Committee. "Or stated more clearly, it means that one baby out of every 10 born dies before it is one year of age in the cities of the United States with a population of 25,000 and over. Assuming that the statistics for these cities may represent the statistics for the entire population of this country, then we would have approximately 2,750,000 births and 275,000 deaths under one year annually.

"Besides this, it is now known that there occur annually about half as many stillbirths as deaths under one year. Through general education, the baby milk station movement and other efforts along kindred lines, baby deaths have been reduced 9 per cent since 1910. It is recognized that through maternity care stillbirths can be reduced 22 per cent and deaths during the first month after birth can be reduced 28 per cent. Nearly half the deaths under one year are of babies less than one month old. This country, following the example or Germany and Great Britain, is now beginning to think of a national maternity care program. When this movement gets under way, it should save at least 75,000 mother and baby lives annually.''

During 1916 there were 68,500 deaths of babies under one year of age against an average of 75,075 for the 5-year period 1906-1910, showing a decrease of 6,536 infant deaths. The death rate of babies under one year of age per 1000 born shows a corresponding reduction to the decrease in numerical deaths.

The lowest infant death rate in the country in 1916 among the cities of 100,000 or over, was in Portland, Ore., with a record of only 55 baby deaths per 1000 births. Fall River, Mass., is the highest, with a rate of 163. In the second group, those with a population of 50,000 to 100,000, Hoboken, N. J., has the low rate of 77 against San Antonio, Tex., which has the high rate of 246. In the cities with populations of 50,000 and under, Brookline, Mass., leads with the remarkably low rate of 32 against Austin, Tex., whose rate was 182.

Though there has been a general decrease for all the cities since 1910, the reports for 1916 compared with those of 1915 are not so encouraging. In cities of over 100,000 population there was an increase in the number of baby deaths in 1916 of 1,573. Thirteen cities in this group showed reductions, New York City leading with a decrease of 1,048, an infant mortality rate of 93, the lowest in the history of the city. Other cities of the group showing decreases were: Philadelphia, 65—rate 101. New Orleans, 156—rate 96; Washington, 12—rate 105; Jersey City, 94—rate 102; Rochester, 2—rate 82; St. Paul, 56—rate 67; Denver, 40—rate 84; Portland, 17—rate 55; Oakland, 23—rate 65; Scranton, 139—rate 85; Grand Rapids, 8—rate 115; Spokane, 41—rate 57; Albany, 62—rate 96.

The cities in this group showing increase were: Chicago, 683—rate 111. St. Louis, 62—rate 89; Boston, 10—rate 104; Cleveland, 118—rate 107; Baltimore, 150—rate 118; Pittsburg, 114—rate 111; Detroit, 548—rate 112; Buffalo, 115—rate 113; San Francisco, 61—rate 79; Milwaukee, 182—rate 113; Cincinnati, 118—rate 97; Newark, 83—rate 89; Los Angeles, 21—rate 69; Minneapolis, 121—rate 87; Indianapolis, 26—rate 86; Providence, 34; Louisville, 31—rate 108; Columbus, 83—rate 89; Toledo, 156—rate 111; Worcester, 94; Syracuse, 31—rate

98; New Haven, 55—rate 89; Birmingham, 24—rate 110; Richmond, 91—rate 136; Paterson, 58—rate 110. Fall River, 8—rate 163; Dayton, 76—rate 98; Lowell, 21—rate 155; Bridgeport, 67—rate 96.

Of the cities from 50,000 to 100,000 population there was an increase of 238 deaths: 15 cities in this group showed decreases as follows: New Bedford, 10—rate 132; San Antonio, 7—rate 246; Lawrence, 81; Yonkers, 48—rate 89; Somerville, 10; Troy, 48—rate 94. Utica, 131—rate 110; Ft. Worth, 27—rate 84; Schenectady, 33—rate 77; Hoboken, 16—rate 77; Manchester, 8—rate 155; Ft. Wayne, 17; Brockton, 19—rate 93; Wichita, 19—rate 74; Mobile, 4—rate 101.

Seventeen cities of this group showed increases as follows: Hartford, 9—rate 101; Trenton, 123—rate 124. Reading, 86—rate 174; Salt Lake City, 64—rate 80; Lynn, 27—rate 80; Springfield, 35—rate 86; Des Moines, 8; Elizabeth, 29—rate 94; Akron, 82—rate 90; Wilkes-Barre, 23—rate 143; Erie, 83—rate 113. Harrisburg, 5—rate 104; Holyoke, 27—rate 181; South Bend, 53—rate 110; Altoona, 28—rate 84; Springfield, 1; Canton, 33—rate 109.

Of the cities under 50,000 there was an increase of 755 deaths under one year compared with 1915. Out of the 71 cities in this group, 21 showed reductions as follows: Augusta, 18; Berkeley, 10—rate 47; Superior, 9—rate 119; Newton, 15—rate 67; Galveston, 38—rate 74; Everett, 1; Cedar Rapids, 8. Perth Amboy, 6—rate 118; Jackson, 24—rate 106; Lima, 18—rate 78; Orange, 13—rate 91; New Rochelle, 22—rate 68; Norristown, 27—rate 120; Brookline, 2—rate 32; Kingston, 1—rate 100; Wilmington, 11—rate 146; Madison, 2—rate 45; Montclair, 2—rate 60; Concord, 1—rate 76. Raleigh, 13—rate 132.

Fifty out of these 71 cities showed increases as follows: Binghamton, 31—rate 139; Lancaster, 16—rate 97; Springfield, 28—rate 80; Rockford, 37—rate 99; Sacramento, 13—rate 82; Malden, 5—rate 55; Haverhill, 18—rate 89; Lincoln, 10—rate 80; New Britain, 13—rate 94. Salem, 21—rate 99; Topeka, 2—rate 84; Wheeling, 7—rate 134; Macon, 11—rate 129; San Diego, 24—rate 69; Kalamazoo, 4—rate 70; Flint, 94—rate 111; Racine, 43—rate 115; Tampa, 10—rate 107; Elmira, 2—rate 93. Quincy, 7—rate 94; Springfield, 36—rate 133; Roanoke, 36—rate 122; Auburn, 37—rate 85; East Orange, 5—rate 59; Pittsfield, 88; Jamestown, 29—rate 101; Mt. Vernon, 1—rate 87; Niagara Falls, 28—rate 131; La Crosse, 16—rate 49; Pasadena, 7—rate 48. Austin, 18—rate 182; Colorado Springs, 13—rate 104; San Jose, 34—rate 94; Lorain, 61—rate 181; Easton, 20—rate 119; Zanesville, 13—rate 124; Poughkeepsie, 19—rate 116; Danville, 9—rate 86; Waltham, 18—rate 38; Newburgh, 1—rate 117. Newport, 4; Watertown, 12—rate 127; Nashua, 20—rate 117; Elgin, 1—rate 86; Battle Creek, 6—rate 77; Green Bay, 42—rate 166; Alameda, 7—rate 50; Cumberland, 29—rate 114; Sioux Falls, 15—rate 99; Reno, 7—rate 67.

THE DUTY OF THE MEDICAL PROFESSION IN THE PRESENT WAR

In round numbers, there are about 150,000 physicians listed in our medical directories. Deducting from this number 50,000 names of those who are not in practice or are physically incompetent, there are 100,000 doctors that should be available. Of this number the Surgeon General's Office requires 20,000, or one-fifth of the active practitioners, as officers in the Medical Reserve Corps of the United States Army.

The unfounded and possibly maliciously circulated reports of the casualties among the medical profession in the Armies abroad have deterred many from applying for commissions. In reality the number killed on the entire Western front from the beginning of the war to June 27th, 1917, a matter of three years, was 195.

The lowest commission offered a doctor is First Lieutenant which draws in pay $2000 a year. Captains receive $2400 and Majors $3000. The cost of equipment is about $150.00 to $175 00, according to the desires of the individual. As in civil life, some of us are satisfied with a $25.00 suit of clothes while others pay $50.00 and this applies to a medical officer in purchasing his outfit in the way of uniforms, blankets, etc.

The individual outlay when once in the service is principally your expenditure for food, or mess as it is called in military circles, and this will average about $25.00 a month, or about $300.00 a year, meaning that a First Lieutenant should have at the end of the year, or to send home to his family or bank, about $1700.00, a Captain about $2000.00 and a Major at least $2500.00.

While this information is of interest to those contemplating applying for commissions in the Medical Reserve Corps, the fact remains that in America we have more than a sufficient number of doctors to adequately supply the demand of the Surgeon General's office without hardship to the civilian population.

The need of doctors is not alone for the mobile army but also in Concentration Camps, Evacuation Hospitals, Base Hospitals and on Transports. It is of decided advantage to volunteer your services and receive the benefit of the very necessary training accorded physicians in medical training camps. It is a safe assumption that for those who receive such training and show their aptitude for the service, advancement will be rapid.

Applications for commissions in the Medical Reserve Corps will be found printed in medical journals or will be sent to you by your Local Examining Board or by the Editor of this paper. Apply for your commission NOW. YOUR COUNTRY NEEDS YOU!

A CRITICAL SITUATION

The Government is raising an immense army of volunteers and conscripts to carry on the war to a successful and, we hope, an early termination.

Every army must be supplied with a personnel of medical officers of adequate number and well trained. While provisions have been made to raise the required number of men for the fighting force, it has been left to members of the medical profession of this country to come forward voluntarily, seeking commissions in the Medical Reserve Corps.

Only a few of the total number required have applied for commissions. This means that unless immediate action is taken by the profession voluntarily, the men in the army now being organized will be without sufficient medical care. Such a condition would be more than critical and dangerous for the success of our army and the cause in which we are enlisted. The medical officer plays a most prominent part not only in keeping the army on its feet and physically fit for fighting, but in returning to the ranks a large percentage of those who have been temporarily put out through casualties.

How soon will the medical profession of the United States as a whole wake up and realize that doctors must come forward and volunteer their services to the Government?

In civil life, when great casualties occur, the doctor readily offers his services and usually is the first on the scene to save human life. How much more important is it then, that in this critical situation, he should come forward and offer his valuable aid to preserve not only human lives, but the life of the nation itself?

Application blanks for commissions in the Medical Reserve Corps are being printed in many medical journals or will be sent to you by the Surgeon General's Office or can be secured from members of the Local Board of Examiners.

If you are not acquainted with such a Board, the Editor of this journal will be glad to advise you. One fifth of the active profession of the United States is all that is required to supply the army now being raised. Be a part of the one fifth.

PATRIOTISM WILL TELL

Much has been said and written unofficially about the possibility of conscripting the medical profession to supply the desired quota of physicians for the immense army that our Government is now raising.

Physicians are as essential to the success of an army as munitions and if our troops are to be the deciding factor in the terrible conflict now raging in foreign lands, the surgeon general's office must be supplied with a sufficient number of doctors in the Medical Reserve Corps to take care of the full complement of troops in the field, on transports, in evacuation Hospitals, base hospitals, in concentration camps, etc.

While it is no reflection upon any man's honor to be conscripted, at the same time we feel sure that a sufficient number of doctors will volunteer their services at an early date, which means considerable to the individual so applying.

It is reasonable to suppose that those who volunteer early and receive the benefit of instruction in a Medical Training Camp, will be the ones who will receive advanced commissions. The lowest commission offered to a doctor is that of First Lieutenant and it draws the pay of $2000 a year. Captains receive $2400 and Majors $3000.

The principal expense to a medical officer will be his mess charges or food, and this should not be over $25.00 a month or $300.00 a year in round figures.

Whatever be the pay, the fact remains that the Surgeon General must have at least 20,000 physicians in the Medical Reserve Corps to supply the present demand, and we feel that the patriotism of the medical profession will be the stimulus that will induce a sufficient number of doctors to offer their services voluntarily.

ADIOS

In September, 1909, I purchased PEDIATRICS and for eight years I have endeavored to place before its readers instructive, helpful literature. The task has been a difficult one, but at the same time it has been a pleasant one. I realize my shortcomings, but I have the satisfaction of having done my best to reflect the best thought and teaching of the best and most recent contributions to the Pediatric literature of the world.

About a year and a half ago I answered the call of the Surgeon-General of the Army and accepted active service in the Medical Reserve Corps. I left a lucrative private practice, and a well-paying Medical Journal—PEDIATRICS—without any consideration for the financial present or the professional future, and I am still in active service. Some months ago I realized that I could not give to Pediatrics the time necessary to properly look after its business and editorial management, and continue in the Medical Department of the Army.

It is with many regrets, therefore, that I sever my connection with Pediatrics. It is like saying good-bye to an old friend. I feel, though, that it is falling into good hands. Dr. William J. Robinson, of the Critic and Guide, becomes its owner with the appearance of the October issue. May I bespeak a continuation of the subscription and advertising patronage which has been accorded to the Journal under my management?

This will, be, no doubt, the last editorial matter that I will pen for these pages, and I wish in parting to say that I have enjoyed going to you each month with some truths which I hope have aided in saving the lives of children; if any such help has been afforded in a single instance, I have not labored in vain.

WILLIAM EDWARD FITCH, M.D.,
Major Medical Reserve Corps, U. S. A.

PEDIATRICS

ORIGINAL ARTICLES

POLIOMYELITIS FROM THE STANDPOINT OF THE NEUROLOGIST*

C. R. BALL, M.D.
St. Paul, Minn.

The severe epidemic of poliomyelitis in New York last summer, as well as lesser epidemics in other states, including our own; and the feeling, almost to a certainty, that the future will bring a repetition of these, makes this subject one of vital importance to the medical profession.

A reading of the literature concerning the recent epidemics leads one to the conclusion that a part, at least, of the failure to check the spread of the disease was due to a lack of organization and co-operation in the profession. Diagnosis has waited for the development of the paralysis in typical cases before it has been made, and many of the abortive and atypical types have not been recognized at all. Quarantine naturally under such conditions has often been a travesty, and existed in name rather than in reality.

Treatment in the acute stage has been largely experimental and consisted frequently in the exploitation of individual methods. The after care, which is so important, and offers so much promise of splendid achievement has frequently been entirely neglected.

If we were ignorant on a good many of the vital questions concerning poliomyelitis, this condition of affairs might be excusable. When, however, we come to take an inventory of our knowledge concerning this affection, we can scarcely plead that ignorance is the cause of this lamentable state of affairs. We know positively that the disease is infectious in all its forms. We know the principal points of entrance of the virus into the system, the chief modes of transmission by contact with persons afflicted with the disease or healthy individuals acting as carriers, the approximate period of time of the infectious stage, as well as the period of incubation.

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*Read before the Ramsey County Medical Society, March 26, 1917.—St. Paul Med. Jour.

Recent studies in the pathology of poliomyelitis have greatly extended our horizon with reference to the symptomatology and thus made the recognition of the various types less difficult.

We are indebted to Wickman for a classification and description of the different forms, as the abortive, the spinal, bulbo-spinal, bulbo-pontine, cerebral, and meningeal.

In the epidemic of 1910 at a consultation which I participated in with several other physicians, after the examination of the patient, although no paralysis was detected, I suggested the diagnosis of poliomyelitis. This was scoffed at by the other consultants and one of them said: "Who ever heard of a case of poliomyelitis without paralysis?" Since that time the abortive type has been definitely acknowledged by all observers. This type is thought, at present, to constitute a large percentage, variously estimated at from 35 to 50 per cent of the total number of cases. The infectious nature of this form is regarded equally as great as, if not greater than, those forms in which paralysis develops. Yet with these facts as common knowledge, Health Departments which have sought to establish an isolation and quarantine of the abortive type are the exception rather than the rule.

Still we wonder why new cases develop, and continue to "swat the fly," sprinkle the dust and make accusations which are difficult to prove, against the bed-bug, mouse, rat and even our domestic animals.

Consideration of the quarantine of the abortive type naturally raises the question as to whether it is distinctive enough for this to be carried out. On this point Koplik says: "In the present epidemic (referring to the epidemic in New York last summer) this type can be recognized so as to leave no doubt as to its distinct identity." Other observers corroborate Koplik's opinion, and their descriptions, from individual and widely scattered observations, present much the same characteristic symptoms.

The onset begins with a disturbance of the respiratory, or digestive tracts, or of both. There is fever, malaise, headache, vomiting, drowsiness, twitching of the muscles, rigidity of the neck, general hypersensitiveness, pulse rapid out of proportion to the fever, sometimes profuse sweating, an exquisite tenderness to pressure along the nerve trunks, hyperactive reflexes, and Brudzinski's and McEwen's signs. Of course, all of these symptoms are not present in every case and there are variations in the clinical picture, just as occur in the course of other infections. Nevertheless, the fact remains that the type is distinctive and should not be difficult of recognition during an epidemic. In doubtful cases, lumbar puncture will aid in establishing the diagnosis. If we intend to rise to the occasion and fight effectively against the spread of epidemic poliomyelitis, these cases must be quarantined. We must awaken to the seriousness of the problem which confronts us and organize and prepare for it.

In the recognition of the paralytic and atypical forms, due doubtless to our old conception of the disease, much confusion exists. On this subject, Sachs, in a recent article, says: "If we wish properly to understand the occurrence of the various types of the epidemic form, we must, of course, reconstruct any theory which would adhere too closely to an old-time conception of an infection, singling out possibly the ganglion cells of the anterior gray substance, and no other part of the nervous system. Such a conception is and always was wrong. As we view the disease now, in the light thrown upon it by the recent epidemics, infantile spinal paralysis is a general infection exhibiting its powers most markedly over the cerebral spinal axis."

In regard to the distribution of the virus, and note this carefully, for it is very important, for proper understanding of the affection, Flexner says: "Whether the cases correspond with the so-called abortive forms of the disease in which definite symptoms of paralysis do not occur or is so slight and fleeting in character as often to escape notice; whether they correspond with the meningeal forms in which the symptoms resemble those of an acute meningitis with which muscular paralysis may or may not be associated; or whether they consist of the familiar paralytic condition, the virus is present not only within the central nervous system, but also in the mucous membranes of the nose, throat and intestines."

Such statements as these in regard to the distribution of the virus and the diffuse nature of the pathology open up possibilities in the symptomatology which were excluded in our former conceptions of the disease.

The question now is: "How far should the old clinical picture of poliomyelitis be altered to make it fit in with these recent additions to our knowledge?"

In order to avoid confusion, Oppenheim's opinion on this point is worth remembering. He says: "With full acknowledgement of the fact that in the epidemic type of infantile paralysis the pathological processes may extend in a diffuse and disseminated manner throughout the nervous system and spare no portion of it, still it should remain clear that in the typical cases the chief lesions and the most positive changes occur in the anterior gray substance. This description retains the characteristic symptoms in typical cases but does not shut out the possibilities in atypical ones. Our task now in diagnosis is to keep our eyes open to these 'possibilities.' "

We know at present from the pathology that an involvement of the neuron of the first order is one of the possibilities, consequently, there is nothing incompatible in the diagnosis of infantile paralysis in a case which has a spastic paralysis and an active reflex. We must eradicate the old ideas which have dominated us so long that all paralysis in poliomyelitis is of a flaccid character, with absent reflexes; also, that every case of the disease develops paralysis. There are many cases of meningeal type in which no paralysis occurs.

Gordon reports three cases from the epidemic of last summer where both Babinski's sign and Oppenheim's phenomenon were present. The physicians in charge of these cases reasoned that the presence of these reflexes was an indication of the involvement of the lateral motor tracts, and although they were otherwise typical cases of infantile paralysis, this diagnosis, for this reason, was excluded.

The examination of the reflexes is not always easy and serious diagnostic errors, as the result of false interpretations of the responses obtained, are often made. The failure of a patient to properly relax his muscles is sometimes responsible for the failure to obtain the reflex; a strained position of the body in bed may cause the reflex to respond on one side and to appear absent on the other. Such conditions are especially apt to be encountered in children because they place themselves on the defensive as soon as one starts to examine them.

I can recall a number of cases where the diagnosis of infantile spinal paralysis was made because of a failure to obtain the reflexes where muscular tension alone was the cause of the absence of reflex response. In severe cases of articular rheumatism, this is often the case.

Recently I saw a case of tetanus in which the extreme muscular rigidity caused the reflexes to appear absent and was responsible for the diagnosis of poliomyelitis.

Gordon speaks of the necessity of testing for the Achilles reflex in every case. He reports a number of cases in which the absence of the reflex on one side was the deciding factor in the diagnosis. In this connection, the following case is pertinent:

Case 1. Miss A., age 18; consultation, February 3, 1917; on September 3, 1912, she complained of headache. The next day remained in bed on account of pain and weakness in the right leg. The following day she was able to get up but could scarcely walk. Patient says, at the time, her right leg was colder than her left, and if she placed her hand on her right foot, the white imprint left faded out slowly. For the first six months her walking was very poor because of weakness and soreness in this leg. Since then it has slowly improved. The physician consulted at the time said the trouble was either hip joint disease or rheumatism.

Physical and neurological examinations were negative except that the patient walked with a slight limp. The muscles of the right calf were smaller and more flabby than those of the left. Patient can stand on her left tip toe but is unable to do this with her right. Patellar reflexes normal on both sides. Achilles tendon reflex present on the left side, absent on the right. Vasomotor disturbances still visible.

This is apparently quite a typical case of the mild form of the spinal type where the absence of the Achilles reflex was a very important factor in the recognition of it.

The bulbo-spinal form is well illustrated in the ascending or Landry's paralysis type. In this form the paralysis begins in the lower extremities and rapidly ascends, until in the course of several days the medulla is reached, and the patient dies from a paralysis of the respiratory center. The bladder and rectum are often paralyzed. Sometimes sensation for all qualities is lost as high as the level of the motor paralysis and except for its ascending character the case resembles a transverse myelitis. It is well to remember that complete loss of sensation for the time being at any rate is another one of the possibilities, sometimes occurring in poliomyelitis. In this type the sensorium is usually uninvolved.

The bulbo-pontine form is identical with the spinal except that the cells of the bulbar nuclei are involved instead of the cells in the anterior horns, causing paralysis of one or more of the cranial nerves, as the facial, auditory, abducens and glosso-pharyngeal.

In typical cases, with an acute onset, the diagnosis is not difficult. In mild cases, however, where the symptoms are transient in character, the recognition is not so easy. For example, an isolated abducens or facial paralysis, especially in young adults, coming on suddenly, with very slight general symptoms, might easily escape recognition. Under such circumstances, it would be hard to differentiate in the facial paralysis between a Bell's palsy and a poliomyelitis. All such cases, during an epidemic, should be isolated.

The cerebral and meningeal types present symptoms which upset our former conceptions of infantile paralysis more than any of the other forms. They show more of the possibilities in symptoms, and in their recognition, a distinction from other kinds of meningitis, such as cebro-spinal, septic, and tuberculous, must be made. The symptoms are those of an acute meningitis which may or may not be accompanied by a paralysis. While certain factors, such as the presence of an epidemic of the disease, the acuteness of the onset, etc., may help in distinguishing this type of meningitis from those due to other causes, nevertheless it is important to recognize that our chief means of differentiation in many cases is to be found only by an examination of the spinal fluid. To illustrate this the two following cases are reported:

Case II. Consultation with Dr. Victor Peterson, July 16, 1916; Miss J., age 12. Patient was taken sick three days before this date with headache, fever, vomiting, rapid pulse and a diarrhoeal disturbance. On the following day she became delirious; at the time of my visit she was in a comatose state. Temperature, 103. pulse, 120. neck rigid, Brudzinski's sign present; reflexes present; no paralysis observed; a lumbar puncture was made and 30 c.c.'s of spinal fluid was withdrawn; intraspinal pressure was increased. The Nonne was plus. The cell count 390-3. During the count a number of very large, pale looking mononuclear cells were seen. The Goldsol showed only a slight change, reddish blue in the 40th dilution.

This patient showed a decided improvement after the withdrawal of spinal fluid and made a good recovery.

Case III. H. P., age 10; consultation with Dr. J. O. Cavanaugh, July 17, 1916. Patient was taken sick two days before this date with similar symptoms to the other case only more severe. In this case the vomiting was especially marked, but there was no diarrhoea. On the second day of illness the patient became delirious. The third day comatose; rectal temperature on this day was 107; pulse from 180 to 200. At this time the coma was so deep that it was difficult to say whether paralysis were present or not. The reflexes were not obtained. A lumbar puncture was made. The intraspinal pressure was greatly increased. Nonne plus. Cell count 472-3. A number of large mononuclear cells, similar to those in Case II were observed. The change in the Goldsol was slight, occurring chiefly in the 80th dilution, also resembling very much the change in Case II. A culture from the spinal fluid showed no growth after five days. This case died the next day, the fourth day of illness.

The peculiarities in both of these spinal fluids to be noted were the small amount of globulin, the marked increase in the number of cells, the large number of lymphocytes, the large mononuclear cells and the behaviour of the Goldsol test. These findings are distinctive and serve to differentiate meningitis of the poliomyelitic type from other acute forms.

In cerebro-spinal and septic types of meningitis, the cloudiness of the fluid, the different character of the cells, leucocytes instead of lymphocytes, the absence of the large mononuclear cells, the reaction of the Goldsol in the higher dilutions, the so-called meningitis zone, and the growth in the culture tube after a few hours, make the distinction easy.

In tuberculous meningitis, with a marked increase in the cell count, one expects to find a proportionate increase in the globulin, a much mroe marked reaction of the Goldsol occurring in the meningitic zone, the absence of the large mononuclear cells and, especially in cases running a very acute course, the finding of the tubercle bacilli.

While spastic paralyses are not the usual type found in poliomyelitis, we must remember they do occur and probably more often than we have thought because of our failure in the past of identifying them with this disease. It is quite likely that some of the cases which formerly were enrolled under the cerebral palsies belong here. Lewis reports one case of a spastic hemiplegia, in a girl four years, occurring in the epidemic in New York last summer. In my service at the State Hospital for Crippled and Indigent children, I have seen one case of a spastic hemiplegia and one of a spastic diplegia. In both of these cases the clinical histories at the time and afterwards were typical of poliomyelitis. In one case, the hemiplegic, poliomyelitis was epidemic in the neighborhood.

In our fight against this disease in its epidemic form a prompt and early recognition of all cases is our first line of defense. Before an effective quarantine can be instituted efficiency in diagnosis must be attained..

For the furtherance of this aim a so-called diagnostic unit or squad should be organized in every community where there is an epidemic or one is threatened, as was done in some places in the East last summer. All cases of suspicious illness should be examined by the unit and general practitioners urged to co-operate with it in every way. Three medical men, a general clinician, a pediatrist, and—pardon my temerity—a neurologist, ought to constitute an efficient personnel. Poliomyelitis is essentially a nervous disease, and as Sachs well says: "the experience and clinical insight of the neurologist are often necessary for the proper recognition of the unusual types of this affection."

In a consideration of the subject of the treatment, poliomyelitis is divided naturally by the course of the disease into three stages: the acute stage which begins with the onset and ends when the pain and tenderness to pressure have disappeared; the second stage, which begins with the disappearance of the sensitiveness to pressure and may be said to end when no further improvement is expected to occur in the paralyzed muscles (the duration of this stage is about two years); the third, or chronic stage, is the one in which the degree of paralysis remains stationary.

The management of the acute stage in general does not differ materially from that of other infections. Special emphasis should be placed on keeping the patient perfectly quiet in order to avoid as far as possible muscular effort and exhaustion. The extremities should, also, be kept warm with special coverings, such as heavy woolen stockings.

Among drugs, urotropin is the one which perhaps has been the most used. It is doubtful, however, whether it has any value, particularly after the onset. Experimentally, it has been shown in monkeys to possess a slight value as a prophylactic.

Methods of treatment which found favor in the epidemic last summer were the simple withdrawal of spinal fluid at regular intervals, the injection of adrenalin chloride intraspinally and administration of convalescent and immune sera in the same manner.

The purpose in the regular withdrawal of spinal fluid was twofold. first, to relieve the intradural pressure, and thus lessen the congestion and improve circulatory conditions. and, second, the attenuation or dilution of the virus by removing some of it. The rationale of injections of a solution of adrenaline chloride subdurally was to utilize the physiological action of adrenaline on the oedematous centers in the spinal cord and medulla. According to Meltzer, who first proposed this method, it was thought that if "a means could be found by which the oedema and other reversible processes of the peripheral zone could be kept down at will continuously, or at least very frequently for long periods, even while the inflammatory process of the primary focus was still active, the nerve tissues would derive benefit."

Lewis, in a report on the treatment of 77 cases by this method says: "The remedy has been given a fair trial and its use is highly recommended." There is no objection in this method to the combining of the adrenalin solution with the immune serum and administering both at the same time.

The curative value of immune serum has been demonstrated experimentally both in vitro and in vivo. Serum from persons who have had the disease, mixed with the virus of poliomyelitis and allowed to stand for several hours, possesses the power of neutralizing the virus and rendering it innocuous. Monkeys previously injected with immune serum resist successfully attempts to innoculate them with the virus; our clinical experience with immune serum may be said to be still in the experimental stage. Those who have had a large experience with it feel that it should be used in the very beginning of the disease if it is to be of value. The chief difficulty in the serum therapy at present is thought to exist in the lack of a sufficient concentration of antibodies. Let us hope that the discovery of a way to overcome this obstacle by the production of a poliomyelitis anti-toxin will soon be found.

In the management of the second stage of the disease organization and co-operation are especially needed, if we expect to fulfill our obligation to those who are affected. In many cases, which are apparently severely paralyzed in the beginning of this stage, with what has been termed "follow-up" procedures, really remarkable results are often obtained. The "follow-up" methods are massage, electricity, the application of heat in some form, muscle training and the use of braces. Massage is, of course, indicated in every case and its value is increased if preceded by a warming up of the paralyzed parts by hot applications or electric bulbs. Electricity is one of our most useful agents during this period, although there is a tendency, especially among the orthopedists, to speak lightly of its value. On this point, Sachs says: "Whatever opinion we may entertain as to the therapeutic value of electricity, we are all agreed as to the great value of electro-diagnosis. In every instance an electrical examination, with the faradic and galvanic currents, should be made of every group of paralyzed muscles." There is no better way of deciding as to whether a paralyzed muscle or group of muscles will recover than by determining their electrical reactions. We have in electricity also one of of the best means of noting progress from week to week in the affected muscles, by observing the improvement in their response to electrical stimulation.

In judging of the therapeutic value of electricity, it is well to consider what it does. When applied to a paralyzed muscle, it causes its contraction by a stimulation of the nerve which supplies it—in other words, the muscle is induced to function by means of electrical stimulation. In making a distinction between the action of electricity and massage, one might say massage gives the muscle passive exercise but electricity causes the muscle to exercise itself. Under these conditions the danger of over-exercise and muscular exhaustion is greater with electricity than with massage. If, however, caution is observed in regard to this, the exercise which the muscle takes itself would seem preferable to that which is given it.

The currents to use for therapeutic purposes are either the galvanic or sinusoidal. If the electricity is to be given intelligently, its application should be restricted to those who have had special experience and training with it. To turn an ignorant person loose with a box of electrical currents would be just as sensible as putting one's patient in a pharmacy, and, in the language of the street, telling him to "go to it." If this advice were followed, naturally in the majority of instances some unfavorable results might be expected.

Muscle training is another method for restoring power to the paralyzed muscles. Lovett says, in his opinion, muscle training is the most valuable measure of all during this stage. He defines it as an attempt to drive an impulse from the brain to the muscle, to enable it, if possible, to open up new paths around affected centers in the cord. Practically, it means having your patient concentrate and then endeavor to carry out a directed movement in the paralyzed part. Personally, I think very highly of muscle training and feel that it should be employed in all cases where muscle action is impaired.

The proper application of braces is a very important part of the plan of treatment in this stage. It is here particularly that the closest co-operation should exist between the neurologist and the orthopedist. The knowledge of the one with reference to the electro-diagnosis and the prognosis of paralyzed muscles is supplemented by the experience of the other with reference to the avoidance of muscle and ligament stretching and their resulting deformities by the application of suitable braces. Lovett says in regard to apparatus, that a good general rule to observe is, that it should be used when the patient cannot stand without it, or if standing or walking a position of deformity is assumed.

The third, or chronic stage, so far as treatment is concerned, is chiefly an operative one and belongs in the main to the realm of orthopedic surgery. We cannot pay too high a tribute to the members of this specialty for the brilliant achievements they have obtained in dealing with the deformities of this stage. Humanity is certainly deeply in their debt.

The public is keenly watching us in this fight against poliomyelitis. We must have organization and co-operation in order to succeed. Let us in justice to ourselves do as well as we know. Let us co-operate together—general clinician, pediatrist, orthopedist, neurologist and health officer—for a greater proficiency in diagnosis, a stricter and more effective quarantine; and finally, let us extend this same spirit of co-operation into the after-care, the "follow-up" procedures, so that every little victim, left helpless in the wake of this scourge, may receive the fullest opportunity for the betterment of his condition that medical skill is able to give him.

THE PROGNOSIS, SEQUELAE AND COMPLICATIONS OF INFANTILE PARALYSIS*

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In the prognosis of acute anterior poliomyelitis, one should be guarded as to the outcome; not only because the extent of the injury to the spinal cord or to other structures cannot be definitely determined during the acute course of the disease, but also on account of the many unforeseen complications that may arise, as well as the possible unlooked for sequelae that may later develop.

Again, our prognosis should be guarded, because oftentimes the clinical manifestations and symptoms are not in keeping with the pathological findings, and often apparently contradict each other; so that, in a case that shows only mild symptoms, often there exists severe lesions in the cord elsewhere which after the acute stage is passed, or later, may give rise to serious results. Flaccidity of muscle, with later atrophy from nonuse, is perhaps the most frequent sequela. This, of course, calls for scientific treatment and electricity.

Depending on the degree of involvement, either weakness or paralysis of one or more groups of muscles is the usual end-result of poliomyelitis. In involvement of the leg, foot drop is very frequent, due to contraction of the muscles of the sole of the foot. Here orthopedic treatment, such as splints, exercise, massage, etc., is indicated. In facial paralysis, when the cheek and eye muscles are involved, puffiness of the cheek, elevation of the angle of the jaw, salivation, contractions of the normal side and strabismus are the results. On account of poor blood supply and lack of exercise, bed sores are very frequently met with, and are early to be guarded against, as they make a very slow recovery. When both lower limbs are completely paralyzed occasionally there develops incontinence of urine, and involuntary defecation.

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*The Pennsylvania Medical Journal.

Diphtheria and meningitis are often seen associated with poliomyelitis, and occasionally scarlet fever. Pneumonia often develops where a child has a history of bronchitis or rhinitis.

Just how long the weakness, flaccidity or paralysis, complete or partial, that follows from infantile paralysis will continue, is an open question; but usually, after a month from the onset of the weakness or paralysis, partial use of the affected part is noticed; but complete recovery is not effected for many months after this time, say, six or eight months; and very often complete restoration to the normal never occurs.

In conclusion, let me say that when we recall that there was nearly a 30 per cent mortality rate in Philadelphia and about 23 per cent in New York during the last epidemic, and Dr. Meltzer of New York, in his reprint in the New York Medical Journal, claims that "only about 50 per cent of all cases, including abortive types," show permanent and complete recovery; I repeat, when we recall these sad facts, there is but a small percentage of cases left, about 20, in which the disease does not leave baneful and irremediable effects; and we are obliged to admit that the prognosis, as regards complete recovery, is by no means a favorable one. It means, gentlemen, that there will be about 350 little children who will be crippled for life in Philadelphia, and about 2,000 in New York as the result of this last epidemic—a great economic loss, indeed. And we anxiously await the day when, through the efforts of scientific research and as the result of much sad experience and justifiable experimentation, poor suffering humanity will be furnished with some satisfactory remedial agent. the saddened hearts of loving mothers and devoted fathers will welcome the day when the terrible slaughter of their innocents will be no more. and the medical world can proclaim to the entire universe, as did Caesar of old, veni, vidi, vici—I came, I saw, I conquered.

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The Early Diagnosis of Poliomyelitis.—Dr. Wardner D. Ayer of Syracuse presented this communication, in which he stated that he was the diagnostician of the State Health Department for the sanitary district which included Oswego, Onondaga, Cortland, Seneca, and Cayuga counties. In the city of Syracuse there are 228 cases, while from the outlying districts 270 cases were reported. Of these the writer said he had seen 102 cases in the acute stage. In 88 of these the diagnosis was confirmed by lumbar puncture; in 42 it was proven by the subsequent development of paralysis; 58 cleared up without apparent paralysis and were considered abortive cases. Twenty of these non-paralytic cases received one or more injections of serum, which in several instances, he felt sure, influenced the course of the disease. Seventeen patients died. The three cardinal symptoms were fever, headache, and rigidity of the neck. Accompanying these but less constantly observed were tremor, drowsiness, constipation, retention of urine, sweating, and various hyperesthesiae. These symptoms the writer explained on the probable pathological mechanics of infection. He considered the theory of the hematogenous mode of infection as entirely inconsistent with the fluid findings and the clinical aspects of the disease. He thought that in poliomyelitis we were dealing with a local disease, one in which we first had a meningitis, where the disease might often subside, giving us the abortive type, but by further direct extension along the perivascular lymph spaces it might give rise to the cortical lesions with resultant paralyses. Fever was present in every case, the average duration being 80 hours, and the average temperature observed was 102.2 degrees F. Headache was noted in all but one of these cases; it was general in character and resistant to treatment. Rigidity of the neck was present in 97 per cent. of the cases and was quite characteristic, being rarely similar to the rigidity of meningitis. In meningitis the rigidity was most often a retraction; in poliomyelitis it was an anteroposterior one. Retraction was only seen in two cases. Drowsiness was present in 87.4 per cent. of the cases. The mentality was always clear. Tremor and twitching were present in 60.7 percent. of the cases; vomiting in 40.1 per cent.; constipation in 36 per cent.; difficulty in urination in 56.8 per cent.; sweating in 21.5 per cent. In 12 early cases the reflexes were exaggerated. Kernig's sign was observed in only 18 instances. Indefinite pain, redness of the throat, and heavily coated tongue were common findings. Lumbar puncture was without doubt our most reliable and valuable aid in diagnosis. The spinal fluid was more often clear, increased in amount, slightly opalescent, and in a few instances distinctly turbid. In the fluids, a cloudy weblike formation was seen on standing. There was a distinct increase of cellular elements, the character and number of which depended a great deal upon the time the puncture was performed. The polymorphonuclear leucocytes often predominated during the first twenty-four hours, and the cells were usually found in the greatest numbers at this time. The cells were rapidly replaced by lymphocytes, so that this was the cell more commonly observed later. Increased pressure of varying degree was seen in 70 cases. The chemical examination were not of great importance except as confirmatory evidence. The cells rapidly disappeared from the fluid with the subsidence of the temperature.

Defective Nutrition in Early Life.—Dr. Elias H. Bartley of Brooklyn read this paper. He stated that statistics indicated that approximately 10 per cent. of the children in the schools of our large cities suffered from malnutrition. Many, if not most cases of malnutrition developed before the sixth year of life. Many of these underfed, mostly neurotic, or neurasthenic children were injured during infancy or early childhood by faulty feeding, by acute infections, tonsillar infection, or acute gastroenteric infections. These children were regarded as delicate and were therefore pampered and indulged. It was the family physician and not the specialist who was in a position to make good citizens out of these children, since he was in a position to follow up the supervision of the family. By the time the child reached the age of six or seven years the chance of changing the general health became rapidly less. In the treatment of this class of children it was very important to get a complete family history of both child and parents, including the home life, disposition, characterics and habits. One must have the confidence and cooperation of the parents if good results were to be obtained. Instead of pampering these children they should be allowed as much liberty of action as their health would permit, with just enough over-sight to protect them from bodily harm. Long and systematic hours of sleep were essential. Late hours and the excitement of certain forms of amusement, such as the movies, should be avoided. In the management of this class of children one should examine the mouth, nose, and throat for a possible source of infection and should correct any defects found.

The Various Phases of Feeblemindedness and the Stigmata of Degeneration, Physical Types, Etc.—Dr. Charles Bernstein of Rome stated that formerly in dealing with those who needed custodial care they thought only in terms of idiocy and imbecility and little was done in the way of differentiating the borderline cases. Under these conditions they had in the custodial institutions about 80 imbeciles and idiots and about 20 per cent. of the borderline cases. With the introduction of the Biet-Simon test and a more thorough study of mental defects conditions had changed and they now found that they had about 80 per cent borderline cases with which to deal and only 20 per cent. idiots and imbeciles. It was estimated that there were about 30,000 mentally defective individuals in the State; provision was made for the care of only five or six thousand of these. The first institution in the State to care for this class of individuals who were not suitable for admission to the insane asylums was made when the Custodial Asylum at Rome was founded in 1853 or 1854 with Dr. Wilbur in charge. After three decades of work with these defectives Dr. Wilbur found that he could return about 20 per cent. to society. One of the problems that presented itself was what to do with the large number of women of child-bearing age in this institution and in others, so they established a branch at Newark, N. Y. They found that a large percentage of these women could be trained so that they could safely be returned to society. It was found that while many of these defectives could not learn geography, or arithmetic, or perhaps could not learn to read, that they could be taught to use their hands. The parents, however, did not take kindly to the idea of manual training alone and wanted their children to be taught as other children, but we had been blazing the way all the time and finding in what directions these people could be trained. Until 1892 no distinction was made between the insane and the feebleminded and the State hospitals had to care for all. At that time an act was passed providing for their care in separate institutions and the School for the Feebleminded at Syracuse was established, and the feebleminded gathered from various institutions, bringing the population of that institution up to about 1,600. Dr. Bernstein then exhibited a number of cases of microcephalus, hydrocephalus, paralytics, mongols, etc. These mental defectives were classified first into idiots, imbeciles, and morons. Each of these were again grouped into low, medium, and high grade. A low grade idiot was one showing a development to that of a normal child of from one to two years, a medium grade idiot equivalent to a child of two or three years, a high grade from three to four years. The three grades of imbeciles corresponded to the ages four to seven years. The mental development of a low grade moron corresponded to that of a child from seven to eight years of age, a medium moron to one of eight to ten years, and a high grade moron to one of ten to twelve years.

Mentality and Intelligence Tests.—Dr. Jesse L Herrick of Albany read this paper. She said that those of them who had been examining the physical and mental and moral make-up of children, going back to heredity and environment, found that all children and adults fell into one of three mental groups, the normal, the supernormal, or the subnormal. Mental endowment had come down to each one through the germ plasm of her ancestry and, according to Davenport, formed the reacting substance upon which the stimulus of environment played, with its resultant known as behavior. This end product often called "brains" they were now analyzing by the use of a number of tests, the standardization of which resulted in a test norm. Anything that called forth a reaction could be standardized, a toy, a game, a puzzle. They had standardized certain tests by selecting children from the different grades of the public schools, beginning with the third grade children whose physical age was equal to the grade age and who had actually passed into the grade. One test carried out with extreme exactness was the peg-board test, that was the average time required by children of various ages to put the peg into every hole in the board. The board used was the ordinary peg-board used in the kindergartens. The test applied to large groups of children showed that they fell into four groups as follows: (a) Those who followed a definite plan pegging evenly back and forth across the board until they had finished; of these it was said that their concentration was good, they could hold a plan. (b) This group of children started at a corner, but occasionally skipped a hole or went back to correct; these are said to have some mental confusion. (c) The children of this group began at a corner, took the next line below and so on without change to the end; of these be said motor coordination good, normal. (d) Children of this group might begin at the middle of the board or anywhere and peg in any direction, might not know when they were through and might look up or glance about; of these it was said their coordination was poor, association poor and they failed to plan. These latter might be mentally defective. A physical examination and environmental conditions were considered in summing up in every case. The speaker described other tests that had been devised and standardizd, such as construction tests and story tests, which tested the auditory memory, the ability to hold, visualize, and correlate ideas.

How Can We Safeguard the Child Against Mental Disease?—Miss Jessie Taft of the New York Mental Hygiene Committee presented this communication. She said that mental hygiene, standing as it did today half way between the medical and the lay world, should be translated into a form that would mean something not only to the layman but would also carry over to the medical world the sense of the appalling ignorance on the part of the ordinary man of even the simplest laws of mental life and the crying need for enlightment and guidance by those who had that knowledge. Physicians had long assumed responsibility in the field of physical hygiene, but on the level of mental life there was at present almost complete separation between the medical and the lay world. The mental hygiene movement existed solely for the purpose of enlarging this field of contact. The public school offered not only the possibility of an immensely enlarged contact between the two worlds, but it offered a growing and developing contact which might look forward to an approximately complete union of science and life in the mental as well as in the physical realm. Persistent unexplained tardiness, unusual obstinacy, extreme unsociability or shyness, unaccountable failure in class work on the part of a bright child, were recognized, it was true, but they were recognized for the most part as bare facts affecting discipline, attendance or scholarship of the class, not as symptoms of a condition in the child's inner life which demanded attention. Children who suffered from intense self-consciousness, who were fearful and apprehensive, who were markedly unsocial, who showed a tendency to depression, who were dreamy and unpractical, or who were apathetic and passive, were not recognized as problems because they gave little or no trouble. They were frequently excellent in school work and models of good behavior. They were, nevertheless, quite as badly adjusted as the more spectacular group. Mental hygiene in the schools would not mean that a teacher be able to recognize the premonitory symptoms of dementia precox or manic depressive insanity, but it would involve a different attitude on the part of the teacher and an understanding of the significance of persistent failure on the part of a child in any direction.

Psychology Versus Psychiatry in Diagnosing Feeblemindedness.—Dr. William B. Cornell of New York presented this paper. He stated that this title had been assigned to him but was not just what he intended. It was- however, not inapt inasmuch as there had been for some time a sort of contest between psychology and psychiatry. The Binet-Simon test for measuring intelligence had been used for some time by a great many examiners with more or less psychological training, most of whom were laymen. They had gone into schools, workhouses, jails, prisons, institutions for the mentally defective and even into hospitals for the insane, applying this scale and on almost no other basis had made diagnosis of feeblemindedness. From this had come some very erroneous conclusions, bad diagnoses, and bad statistics. The original use of the Binet scale was to provide a ready method of classifying the intelligence of Paris school children; there was no intention expressed that it should be used on adults. There was today great need for the organization of the institutions for the defective along the lines of the best psychiatric hospitals.

Types of Juvenile Psychoses.—Dr. W. V. Millias of Rome presented several children as types of juvenile psychoses. He stated that there was a group that presented the characteristics of both insanity and feeblemindedness. The definition of insanity was without a mind, but that was begging the question for the defective might also be without a mind. The characteristic of the feebleminded was that when they were set to do a certain thing they did it with the greatest regularity until they were stopped, while the insane showed changes from day to day, would not follow a routine and went from one thing to another. Children with psychoses did not have hallucinations and delusions as did adults but were always on the move. The boys presented had shown criminal tendencies and were incorrigible.

RETROSPECT OF CURRENT PEDIATRIC LITERATURE

The Relaton of Jaw Development in Children to Nasal Obstruction.—Harold Hays, in the Medical Times, declares that it has remained for the orthodontist to prove to us that improper jaw development (particularly the upper jaw) is responsible for as much nasal obstruction as tonsils and adenoids. When the combination exists, the child is doomed to become a permanent mouth-breather unless the jaw anomoly is corrected.

The high-arched palate is caused by a number of conditions, among which is thumb-sucking in babyhood. The infant constantly presses upon the upper arch or against the free edge of the gum. Although the first teeth may come in properly, the second teeth are crowded. The effect on the nose is marked. The nasal septum has a number of germinal centers and the septum must grow regardless of the restrictions placed upon it. If the upper maxillary arch is bent upward and narrowed, the septum will naturally bend to one side or the other.

It is remarkable to note the beneficial effects on nasal breathing soon after the upper dental arch is expanded. This is most easily done during the early years of the second dentition when the groove between the two components of the maxilla has not firmly knit. I call to mind a number of children who, having suffered from nasal obstruction for years, even after the tonsils and adenoids have been thoroughly removed, have had. proper nasal breathing brought about by expansion of the upper arch.

When examining children who are suffering from nasal obstruction, I make a point of noting the height and width of the hard palate, particularly if the nostrils are narrow and have a tendency to collapse. If tonsils and adenoids are partially responsible for the trouble I insist upon their removal. But frequently I am assured that proper nasal breathing will not be restored by this operation and so I insist that the patient promise me that soon after the operation they will consult an orthodontist. A number of years ago, I removed the tonsils and adenoids from a small, anemic child who had a high-arched palate. Although I insisted on the parents consulting an orthodontist, they waited two years before doing so. The operation did absolutely no good. As soon as the arch began to expand, proper nasal breathing was restored.

The orthodontist does wonders in older children, too. Recently I saw a boy of seventeen who had never breathed through his nose, although the turbinates were normal and the septum straight. The teeth were braced and the jaws separated with jack-screws. Within one month the two maxillae began to separate and within a short time an expansion of over half an inch had taken place. The boy now breathes through his nose, without a nasal operation.

Pertussis Vaccine.—Shaw (Am. Jour. Obst., July, 1917, lxxvi, No. 475) says that "statistics prove that in young children whooping-cough is the most fatal of the group of so-called infectious dseases of childhood. Fully 80 per cent of the deaths from whooping-cough in New York State during the five year period, 1910 to 1914 were of infants under two years of age and ninety-six of the whooping-cough deaths were children under five years of age. The importance of controlling and preventing a disease which has such a high mortality in early life and such a long and often protracted course, leaving the child debilitated and susceptible to bronchopneumonia, tuberculosis, and diarrheal disease, cannot be too strongly emphasized. The most rational and important step in the control of whooping-cough is the prevention of the disease itself. The very great importance of the early recognition and prompt reporting to the health authorities of whooping-cough should be realized by the general public and the medical profession. Every case should be regarded as suspicious until its real nature is ascertained, and while in doubt the child should not be allowed to associate with children. Penalties prescribed by the Sanitary Code for failure to report cases of whooping-cough should be enforced just as rigidly as in the case of infantile paralysis, diphtheria, and smallpox. Infected children should be isolated from other children, and in the street should wear a distinguishing mark such as an arm band with the words 'whooping-cough' in large letters. The sputum and vomitus should be treated in the same manner as in tuberculous affections. The fact that there are 999 alleged 'sure cures' for whooping-cigh is proof that we have not yet found a medical remedy of much value. The discovery of the Bordet-Gengou organism has opened the way for a more rational and scientific mode of treatment. Pertussis vaccines are prepared by several commercial houses, by the New York City Department of Health, and in the laboratories of the State Department of Health. Those prepared and recommended by the commercial houses are polyvalent, that is they are mixtures of vaccines, not only containing the Bordet-Gengou bacillus, but containing the influenza bacillus, streptococci, staphylococci, etc. The vaccines prepared by the New York City and State Departments of Health are pure vaccines standardized by Wright's method from the Bordet-Gengou bacillus. In influenza Dr. Holt has shown that we may find a cough which clinically resembles that of whooping-cough, so that in these cases the pertussis vaccine would have no effect. There is also a probability that there are several types of Bordet-Gengou bacillus. These facts should be borne in mind before condemning the use of vaccines, which prove unsatisfactory in a small series of cases. Graham and Hess report experiences with pertussis vaccines which they believe warrant their further trial. At St. Margaret's House in Albany, 164 children were exposed to whooping-cough in four different epidemics and only 7 per cent. of the number developed the disease. The vaccines administered were from pure cultures prepared by the State Laboratory. In former days when whooping-cough developed in an institution, fully 50 per cent. of the inmates contracted the disease. The value of the vaccines as a prophylactic measure is undeniable, and they should be administered to every child exposed to whooping-cough. The vaccines are harmless, do not produce severe reactions, and there is no danger of anaphylaxis. The dosage used for prophylaxis at St. Margaret's House is the same as the dose for treatment, namely, five hundred million first injection, one billion for the second, two billion for the third, giving the injections every second or third day. We have administered with good results, one billion every two days for ten days. The results of the vaccines in the treatment of cases already in the paroxysmal stage are not as striking as in prophylaxis, but the concensus of opinion of those who have employed the vaccines, is that where the proper vaccine is used there is a shortening of the paroxysmal stage, with a reduction in the number and severity of the paroxysms.

The Age and Seasonal Incidence and Communicability of Acute Poliomyelitis.—Herrman (Jour. Am. Med. Assn., July 21, 1917 lxix, No. 3) has studied the statistical results of the epidemic of 1916 in New York City. This is the largest epidemic of the disease on record. He shows that the crippling resulting from poliomyelitis is less than from the other communicable diseases and heart disease. A child with a partially paralyzed limb is less handicapped in the struggle for existence than one with defective hearing or a diseased heart. The other communicable diseases are more common and cause more deaths Susceptibility is more marked in infants and young children. Young infants are less frequently attacked because less exposed to infection. A large proportion of patients under five years of age do not indicate a mild epidemic. The same increase of susceptibility of the central nervous system is seen in the age incidence of tuberculous meningitis. In temperate climates epidemics occur during the summer months, but sporadic cases occur throughout the year. In Scandinavia, epidemics have extended into the winter months. Meteorological conditions do not play the most important role in the spread of the disease. Seasonal changes in the power of the nasopharyngeal mucous membrane to neutralize or inactivate the virus of poliomyelitis may account for the increased susceptibility. Patients who have had poliomyelitis seem to be more susceptible to ordinary nasopharyngeal infections. The susceptibility of children under thirteen years of age to poliomyelitis is much less than to the other communicable diseases of childhood. It is present in only about 2 per cent. The susceptibility is about fifty times as great, to whooping-cough about thirty-five times, and to scarlet fever and to diphtheria about ten times. Children who are susceptible to poliomyelitis are not necessarily more susceptible to the other communicable diseases. There exists a distinct individual predisposition. Because a majority of the susceptible children have immunized by having had the disease or by having been exposed to it, no large epidemic is expected in New York City for some years. A future epidemic could be controlled if we had a method of detecting the 2 per cent. of susceptible children and could immunize them with convalescent scrum.

Meningococci in the Purpuric Elements of Meningococcal Infection.—Arnold Netter and Marius Salanier (British Journal of Children's Diseases, April-June 1917) took smears from the vesicles which developed on the surface of purpuric patches. On staining, these smears showed a collection of diplococci, resembling coffee berries, which were decolorized by the Gram method. One case was meningococci infection without meningitis; the other was meningitis preceded by purpura. In the first case the lumbar puncture showed clear spinal fluid. Twenty c c. of a mixed antimeningococcal serum were injected and the diagnosis was made the following day by an examination of the serum from a vesicle covering a part of the purpuric lesion. Meningococci are very rarely found in herpectic vesicles accompanying cerebrospinal meningitis.

Acute Delirium with Lobar Pneumonia in a Child.—Hugh T. Ashby (British Journal of Children's Diseases, April-June, 1917) reports the case of a child, aged two years, who had a severe pneumonia with crisis on the seventh day. Two days before the crisis he became slightly delirious. After the crisis instead of the usual sleep he became more acutely delirious. The temperature at this time was only slightly raised. After thirty-six hours he began to improve and at the end of two and one-half days he became more rational and slowly regained his usual health. Treatment consisted of giving bromides and chloral hydrate, six grains of each, repeated several times. There were no convulsions or signs of delirium.

Treatment of Pneumonia in Early Life.—L. R. DeBuys (New Orleans Medical and Surgical Journal, August, 1917) gives as his general plan in the treatment of pneumonia rest, proper nourishment, an adequate supply of oxygen, counterirritation, uniform temperature to the thorax, and judicious medication the plan to be modified to meet the requirements of each individual case. Rest lessens combustion in the body, decreases the demand for oxygen, lessens the respiratory rate, diminishes the heart's action, spares the cardiac muscle, and decreases the demand for food. Carbohydrate foods are the least apt to cause additional symptoms, are easily digested, spare protein waste, and supply the needed amount of calories. Fresh air is essential and sunlight is beneficial to all pneumonias; it is the practice of the writer to employ oxygen from the start in all cases. He finds that a tank of 250 pounds pressure will last about fifteen days if properly administered. His plan is to give it for ten minutes every hour; he allows three bubbles to the second to pass through the water bottle, the cone to be held near the patient's face, but not over the nose and mouth. His experience is that by assisting in shortening the duration of the illness and thus its cost, the oxygen does not prove an expensive remedy. For counterirritation he prefers a mixture of olive oil and turpentine applied to the chest, which is then covered by a woolen undershirt and an oiled silk jacket; this maintains a uniform temperature. Most cases of pneumonia are overmedicated. A calomel purge is usually of advantage at the onset. During the stage of congestion alkalies are of benefit, particularly the aromatic spirits of ammonia, and many cases, especially of lobar pneumonia, need no other medication. Creosote is indicated in bronchopneumonia. When there is much bronchitis large doses of sweet spirits of nitre are of distinct advantage. Fever should not be combatted unless it goes too high or is accompanied by unfavorable symptoms. Infants and small children do not tolerate cold as well as they do tepid baths which are frequently sufficient especially when ice to the head is employed.

The Focal Pulmonary Tuberculosis of Children and Adults.—Opie (Jour. Exper. Med., June, 1917) examined fifty adults and found evidence of tuberculosis infection in all of them. Approximately one-half of all adults have encapsulated lesions of the lungs or bronchial lymphatic nodes, whereas in one-third pulmonary and lymphatic lesions are firmly calcified and completely healed. Tuberculosis pulmonary lesions of adults who have died of diseases other than tuberculosis are of two types: (1) apicaltuberculosis similar to the usual type of fatal phthisis and unaccompanied by caseation of the regional lymphatic nodes; (2) focal tuberculosis not more commonly situated in the apices of the lungs than elsewhere and accompanied by caseation (or calcification) of the adjacent lymphatic nodes. Focal pulmonary tuberculosis of adults is identical with the tuberculosis of childhood. It occurs in at least 92 per cent. of all adults. It may be acquired between the ages of two and ten years but in more than half of all individuals (in St. Louis) makes its appearance between the ages of ten and eighteen years. Tuberculosis of children does not select the apices of the lungs, is accompanied by massive tuberculosis of regional lymphatic nodes, and exhibits the characters of tuberculosis in a freshly infected animal, whereas tuberculosis which occurs in the pulmonary apices of adults has the character of a second infection. Almost all human beings are spontaneously "vaccinated" with tuberculosis before they reach adult life.

Lateral Curvature of the Spine.—J. S. Kellett Smith (British Journal of Children's Diseases, April-June, 1917) in investigating cases of curvature determines whether the curve has to do with the spine alone or whether it is a curve of accommodation; whether there is evidence of past or present internal condition of the chest likely to cause unequal development, and whether the standing height of the legs are equal. In a series of forty-three cases observed during a year there were five of accommodation curves. Two of the patients had ovarian trouble, one had a movable kidney; one had recurrent biliary catarrh, and one presented pain, tenderness, and vasomotor signs over the distribution of the posterior branch of the fifth left cervical nerve. The patients who accepted operation or treatment showed distinct improvement. Six of the forty-three cases showed curvature the result of severe pneumonia or whooping-cough with pulmonary complications. Sixteen of the forty-three cases were due to a shortening of a leg. Of these sixteen ,eleven were of the left side. The preponderance of left sided shortening may be explained by the fact that the left half of the diaphragm acts more strongly and has a greater excursion than the right side. This causes a tendency to a left low dorsal curve which is the common constant factor in the great majority of all cases of curvature. Two of the forty-three were examples of amesial pelvis, and the remainder showed no very definite actuating cause other than the habit of harmful posture.

Hyperacute Purpura Without Cerebrospinal Meningitis.—Arnold Netter, Marius Salanier and Mme. Wolfrom (British Journal of Children's Diseases, April-June, 1917) report a case of a child ten months old, who, in two weeks before admission to the hospital, presented all over the body little red spots, in the centre of which a little pimple appeared. These dried up rapidly and formed a crust. It was considered to be due to digestive disturbance, and, as a matter of fact, cleared up after one of the articles of diet was eliminated. Two weeks later shivering and fever developed and the following day large violet spots appeared all over its body. A lumbar puncture proved to be negative. Twenty c. c. of antimeningococcal serum were injected and some of the darkest purpuric patches were scarified. These showed meningococci, and a fulfinating form of purpuric meningococcus infection without meningitis was diagnosed.

Pertussis Vaccine.—Paul Luttinger (Jour. Am. Med. Assn., May 19, 1917, lxviii. No. 20 1461) gives a summary of the results of the whooping-cough clinic of the Department of Health of the City of New York. The work was carried out under the supervision of Dr. William H. Park, and the conclusions reached are that the results obtained at the clinic, and also by over 180 private physicians and health officers would warrant the routine administration of pertussis vaccine for both curative and prophylactic purposes. The best time to institute the vaccine treatment, except as a prophylactic, is the first and second week of the paroxysmal stage. When the proper vaccine is given and the method of the department is employed, the disease is materially reduced in duration and severity. The presence of subconjunctival hemorrhages in prophylactic cases which were protected by the vaccine seems to point to its specific immunizing action against the paroxysms and to the fallacy of the hitherto accepted theory that these hemorrhages are due to the violence of the cough.

Relation of Amebic Dysentery to Acute Diarrhea.—G. Marshall Findlay (Lancet, May 19, 1917) examined the stools from 110 cases in which there had been one or more acute attacks of transient diarrhea with abdominal uneasiness, griping, epigastric pain, nausea, and vomiting. In thirty-six he found typical Entamebae histolyticae and in fifty-six others the form known as Entameba minuta. The form of acute transitory diarrhea described is extremely common among foreigners within about a fortnight after their arrival in the tropics and it has been observed that a large proportion of its victims subsequently acquire amebic dysentery, or are found to have become ameba carriers. Confirmatory of the relation of the diarrhea to amebic dysentery was the fact that of a series of cases of this acute diarrhea treated at once with emetine injections, only one patient subsequently acquired amebic dysentery. These observations showed the close relationship between these two conditions and suggested that the diarrhea was a protective effort on the part of the tissues to rid themselves of the harmful new invader.

Incontinence of Urine and Paroxysms of Fear as Initial Manifestations of Taboparesis.—Logre (Presse medicale, July 9, 1917) reports the case of an artilleryman, aged thirty-eight years, who strongly affected by the explosion of a large shell close at hand, became unable to hear the whistling [illegible] without throwing himself to the ground wi[illegible]fuse sweating, involuntary emission of urine and psychical disturbance amounting almost to stupor. Such a condition might have been considered one of pathological cowardliness developing in a psychopathic subject as a result of violent emotion. Systematic examination showed, however, that the man was in reality suffering from tabes and general paralysis. The urinary incontinence, apparently emotional in origin, was merely a manifestation of tabetic sphincter trouble, and the cowardliness an initial symptom of paresis. This unusual beginning of the latter disease is presented as a striking instance of the group of cases comprised in war psychiatry, the dementia of paresis having affected first and selectively his mental qualities as a warrior.

Severe Anemia in the Newborn.—Dr. K. G. Percy reported this case to the New England Pediatric Society: Eighth child, healthy parents, three brothers and sisters dead of the same apparent disease within 12 days of life. Other sisters and brothers well. Normal delivery; normal baby for 3 days. Rapidly increasing anemia, without apparent fever hemorrhages or signs of sepsis. Seen on eighth day. Hgb., 18 per cent.; red blood cells, 2,1000,000; white blood cells, 18,000. Smear showed moderate polychromatophilis, poikilocytosis, anisocytosis, stippling and increased platelets. Eighteen nucleated reds to 100 white cells. White cells showing mononuclearcytosis, with a tendency of cells to be of primordial type. Wassermann negative. Parents' Wassermann negative. Transfusion, 50 cc., paternal blood, without apparent benefit, and death within eighteen hours. Autopsy showed only excessively active red and white blood cell-formation in spleen, liver, possibly thymus and lymph glands. Bone marrow not examined. The general picture of the case simulated a severe secondary anemia of infancy, described by Germans as pseudo-leukemia infantum.

BOOK REVIEWS

Hygiene and Public Health, by Louis C. Parkes, M.D., D.P.H., Univ. of Lond.; Lt. Col. R. A. M. C. (Temp) Consulting Sanitary Advisor to H. M. Office of Works Late Civilian Sanitary Member of the Advisory Board for Army Medical Services, Medical Officer of Health of the Metropolitan Borough of Chelsea, Fellow of the Royal Sanitary Institute and Henry R. Kenwood, M.B., F.R.S., Edin., D.P.H., Lond., Lt. Col. R. A. M. C. (Temp) Chadwick Professor of Hygiene in the University of London; Medical Officer of Health and Public Analyst of the Metropolitan Borough of Stoke Newington and Medical Officer of Health for the County of Bedfordshire, sixth edition, with 89 illustrations, 775 pages, cloth binding, $4.00 net, Philadelphia, P. Blakiston's Son & Company, 1917.

This work embraces all the fields of medicine and allied sciences which form the basis of all public health activities. Professor Parkes has written and taught public health matters for a great many years. He is, therefore, eminently qualified to discuss hygiene and public health from every viewpoint. The more important communicable diseases are discussed from the viewpoint of distribution, modes of transmission, their virulence as to contagion, etc. He gives instructions as to their prevention, their prophylactic treatment and the best means for their handling and after-care.

The question of environment in its relation to health and disease, food, water, air, soil, and disposal of waste is most carefully discussed from the viewpoint of the Public Health Officer. The question of industrial and school hygiene is most intelligently discussed and directions given for their use in schools and industrial plants. The subjects of general quarantine and disinfection and isolation, with other subjects of sanitary importance, are most carefully outlined, so that the novice in this work will find guidance here for any question that might arise in his work.

A chapter is devoted to foods, beverages and condiments which is very readable, entertaining and instructive. The student of advanced si ology will only read a few pages of this chapter without being impressed with the masterly way in which these subjects are discussed.

In the sixth edition of this work, Professor Parkes has associated with himself Henry R. Kenwood, M.B., and they, together, since the last edition in 1913 have carefully revised the work and brought it thoroughly up to date. A new chapter has been added on maternity and child welfare work; the subjects of personal hygiene, camp sanitation and communicable diseases have been amplified; and a note on marine hygiene has been inserted. We have pleasure in commending this work as a reference book for all physicians doing public health work, or those interested in hygiene and preventive medicine.

Preventive Medicine and Hygiene, by Milton J. Rosenau, M.D., Professor of Preventive Medicine and Hygiene, Harvard; Director of the school for health officers of Harvard University and the Massachusetts Institute of Technology; Formerly Director of the Hygienic Laboratory, United States Public Health Service, etc. Third edition, thoroughly revised. 1296 pages, 206 illustrations handsome cloth bindings. $6.50 net. D. Appleton & Co., New York and London.

No man is better qualified to write a work on Preventive Medicine and Hygiene than Dr. Rosenau, who, for twenty-five years, has been actively engaged in public health work as quarantine officer in epidemic campaigns, in epidemiological investigations and in public health laboratories, at home on the continent and in the tropics.

This work includes those fields of the medical and related sciences which form the foundation of public health work. Each important communicable disease is discussed separately from the point of view of distribution, modes of transmission, diagnosis, preventive measures, resistance, immunity and prophylaxis. Not only does Dr. Rosenau tell how to prevent those infectious diseases which can be prevented, but he also tells how to manage them and keep them from spreading. He covers environment in its relation to health and disease, food, water, air, soil, disposal of wastes, vital statistics, occupational diseases, industrial hygiene, school hygiene, disinfection, quarantine isolation, and other subjects of sanitary importance in a preventive campaign.

In this revision much new material has been added bringing it right up to the minute and with the last word on—The Prevalence of Venereal Diseases, Chancroid, The Schick Reaction, The Bang Method of Suppressing Bovine Tuberculosis, Organization of a Local Tuberculosis Campaign, Tuberculosis. Sanitaria and Dispensaries, Emetine, Insecticidal Agents Especially for Lice and Fleas, Standardization of Bacterial Vaccines, Sensitized Vaccines, Nuisances, Roaches, Feeblemindedness, The Wassermann Test, Relation between Host and Parasite, Essential Requirements for a Safe Milk Supply, Butter, Desiccated and Condensed Milk, Streptococci of Sore Throat, Sodium Fluroid, Hydrofluoric Acid, Cancer Heredity, Tests for Heated Milk, Echinococcus Disease, Carbon Dioxide in Alveolar Air, Sanitary Significance of Odors, Ocular Hygiene, Hydrogen Sulphide, Methane, Accidents in Sewers and Their Prevention Reinspiration of Expired Air, Air Washing with Reference to Ventilation, Water Purification and Sanitary Analysis of Goiter, Sanitation of Swimming Pools, Etc. The following chapters have been rewritten in whole or in part: Leprosy, Mushroom Poisoning, Beriberi, Pellagra, Carbon Monoxid, Chlormated Lime, Vital Statistics (Trask), Disinfection, Quinine Prophylaxis for Malaria, Mental Hygiene.

This third edition might well be called a "special" or Military edition, for it has been prepared to meet the needs of the present emergency. It contains a discussion of the Duties and Organization of the Sanitary Corps, the Examination of Recruits, Diseases of the Soldier, Sanitation of Troops in Camp and on the March, Sanitation of Barracks and Trenches, Physical Training, Personal Hygiene and Equipment of the Soldier, Red Cross. Rations, etc.

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From a literary standpoint, the excellence of the text is beyond criticism. The author's intimate knowledge of preventive medicine and hygiene. his exceptional training in public health matters, and the judicial manner in which he handles his subject, combine to place him in the front rank of modern preventive medicine. As a reliable work of reference, it is heartily commended, and for a one volume work, it will serve as a standard for many years.

The Child in Health and Illness.—By Dr. Carl G. Leo-Wolf, with an introduction by Dr. Peter W. Van Peyma, Clinical Professor ot Obstetrics, the University of Buffalo. Cloth, 12-mo, $2.00 net. George H. Doran Company, 38 West 32nd Street, New York.

In this up-to-date treatise, Dr. Leo-Wolf has co-ordinated the latest science and scientific method with the highest ideals of maternity and motherhood. Beginning with the development of the infant, he treats in succession of such vitally important subjects as the disease of the unborn, the care of the unborn, the feeding of infants, digestive disturbances of infants, teething, premature birth, the diseases of the infancy, the development of the child, the feeding, clothing and education of children, the infectious and contagious diseases of childhood, other diseases of childhood. Dr. P. W. Van Peyma, of the University of Buffalo, has furnished an introductory chapter on the subject of prenatal influence and care. Defects of the Eye and Blindness in Children are also treated by a specialist, Dr. F. Park Lewis having contributed a chapter on this subject. The book contains useful recipes of dishes for children.

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Williams' Obstetrics, a text book for the use of practitioners and students, by J. Whitridge Williams, M.D., Sc.D., Professor of Obstetrics, Johns Hopkins University; Obstetrician-in-Chief and Director of the Dispensary to the Johns Hopkins Hospital, Baltimore. New edition, revised and enlarged. 950 pages, with 8 colored plates and 660 other illustrations. Cloth, $7.00 net. D. Appleton & Company, New York and London.

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Diseases of the Skin.—By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Member American Dermatological Association; Assistant Surgeon, United States Navy, retired; Dermatologist to the Christian

Church Hospital. Second edition, enlarged and revised. 987 pp., 838 illustrations, 8 color plates. Cloth $6.50. C. V. Mosby Co., St. Louis, Mo.

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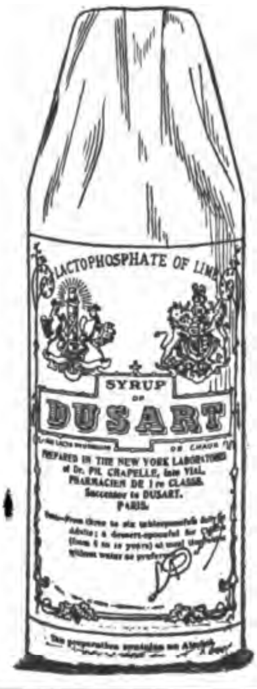
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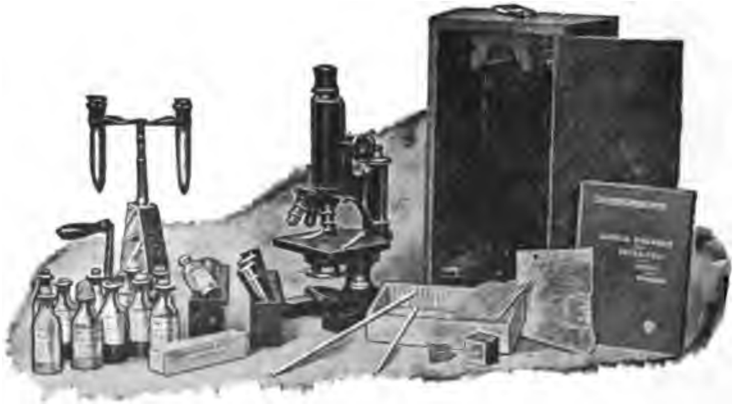

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